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**THE IMPACT OF AMERICAN AID IN THE SPANISH
ECONOMY IN THE 1950s**

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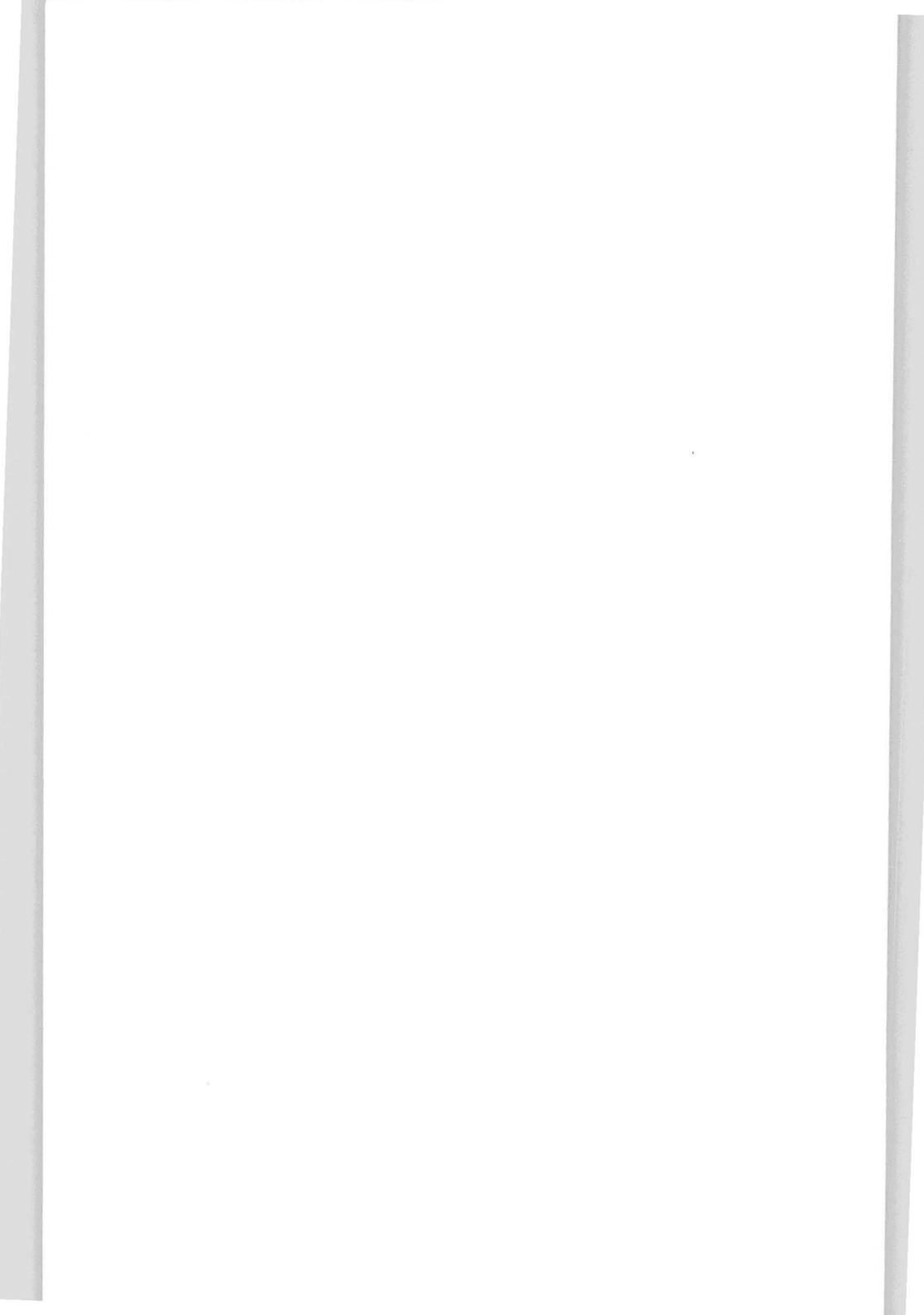
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Abstract

This dissertation explores the impact of American aid in the Spanish economy in the 1950s. As opposed to much of the recent literature on the subject, it views aid as crucial for the Spanish economic take-off. The suggested major effect of aid was to rehabilitate the business sentiment, changing expectations of industrialists who were more willing to undertake investment projects seen as too risky before the American backing of Franco's regime. A game theoretical approach is presented to motivate the plausibility of the hypothesis, which is then confronted with the empirical evidence available. Anecdotal evidence such as diplomatic records is presented, together with data on private investment, to support the main line of reasoning. A further contribution of this dissertation is to consolidate what it is known (and highlight what is not) about the actual amounts of aid granted by the Americans.

Acknowledgements

I would like to express my gratitude to Dr. Leandro Prados de la Escosura and Dr. Fernando Guirao for their guidance and invaluable help with sources. Similarly my thanks are extended to Dr. Pedro Fraile, Dr. Francesco Galassi, Dr. Sally Horrocks, Dr. Núria Puig, Dr. Max-Stephan Schulze, and especially to my supervisor for this project, Prof. Nick Crafts.



Spain is run today by men of second-rate ability, men whose vision is obscured by Spain's glorious past. These men, in their thoughts and concepts, are as isolated from world thought as they are walled in physically by mountains and seas. Men of liberal thought and ability do not want to associate themselves with the Régime. [...] Spain today, that is the business world of Spain, has no confidence in the conduct of the economy of Spain.

Paul T. Culbertson, American *chargé* in Spain to the Secretary of State, Acheson. Madrid, 20th June 1950.¹

1. Introduction

On 26th September 1953 Franco's Spain and the United States signed three treaties, covering defence, economic cooperation and technical assistance. The Pact of Madrid, as the agreements became to be known, committed the Americans to provide an unspecified amount of economic and military aid in return for the use of military bases, and certified the return of Spain to the international community.²

Americans had started to grant aid to the Spanish government since the deterioration of the cold war in 1950, and they had similarly promoted other measures of international acceptance of Franco such as the return of Ambassadors to Madrid.³ Since American aid roughly coincides with the resumption of economic growth in Spain in the early 1950s, the immediate question is to consider what impact did American aid have on the Spanish economy.

Despite the similarities with the Marshall Plan, historiography on the impact of American aid in Spain has not followed the plethora of discussion about the

¹ *Foreign Relations of the United States* [hereafter *FRUS*], 1950, vol.III, p.1564-6.

² See for example Tamames, *La República* [titles of works in Spanish are translated into English in the bibliography]. In English see Preston, *Franco*. A recent introductory text is Grugel and Rees, *Franco's Spain*.

³ On the negotiations see Liedtke, *Embracing a Dictatorship*. For an account of the change in international acceptance of the regime see Ahmad, *Britain, Franco Spain*.

European Recovery Programme that started in the mid-1980s.⁴ No monograph covers the impact of American aid in the Spanish economy and much of the literature focuses on the diplomatic aspects, just barely touching on the economic impact of aid to mention the limited amounts made available as a further proof of the imbalance in the agreements.⁵ However, others have given a more prominent role to American aid, although the transmission mechanisms suggested are generally vague, pointing at unspecified multiplicative effects,⁶ or the relief of supply bottlenecks,⁷ with little quantitative support.

In this dissertation we analyse some of the traditional arguments put forward and then move on to consider the less emphasised hypothesis that the granting of American aid was instrumental in changing the expectations of the Spanish business community. The economy in the 1940s was under too much uncertainty, and therefore private investment was too risky. In those circumstances waiting had a high value, thus encouraging the postponement of investments.⁸ American support will change that, signalling investors that the regime will both last and ultimately change its policies. The Pact of Madrid enhanced the credibility of the government and made it irrevocably committed to furthering pro-market reforms. This is not to say that all controls and distortionary policies were lifted at once after the signing of the agreement, but that private investors anticipated that the only possible move was towards that direction.

⁴ Milward, *The Reconstruction of Western Europe*, was the precursor of a literature that has provided quantitative answers to many questions. For example, De Long and Eichengreen, "The Marshall Plan".

⁵ Viñas, *Los pactos secretos*, is the classic study.

⁶ Sardá, "Prólogo".

⁷ Clavera et al., *Capitalismo español*, and García Delgado, "Crecimiento industrial".

⁸ This is the essence of the investment under uncertainty literature. See Dixit, "Investment", and Pindyck, "Irreversibility".

Expectations were, therefore, crucial. Although this is no new thesis,⁹ the novelty lies in the importance attached to it and in providing a closer empirical examination of the claim.

The rest of this dissertation is organised as follows. Section 2 argues for a more optimistic view of the growth achievements of the Spanish economy in the 1950s. Section 3 presents a description of the amounts, timing and form in which American aid was granted to Spain, followed by a discussion of possible transmission mechanisms through which aid could have had an impact on the domestic economy in section 4, including a game theoretical approach to motivate that aid could have had significant credibility enhancement effects. Section 5 puts the hypothesis to the test, presenting some anecdotal and quantitative evidence to support it. Finally, a conclusive section summarises the main arguments put forward and suggests areas for further research.

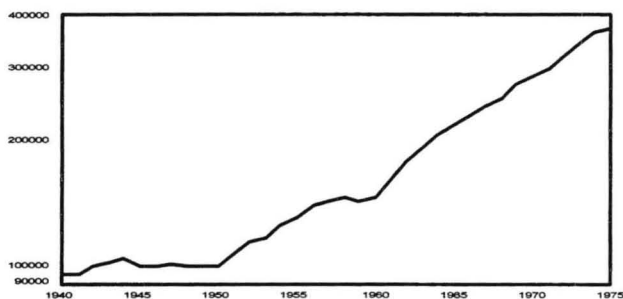
2. Economic growth in the 1950s

Traditionally the 1950s have been portrayed as stagnant. A decade in which the failure of the autarkic policies was revealed yet pursued until their exhaustion and only abandoned at the major turning point in economic policy that 1959 represented. Undisputedly, the years after the 1959 Stabilisation Plan show a sustained and impressive growth record. However, a look at graph 1 below shows how in the decade of the 1950s growth experienced a significant acceleration. That growth spurt deserves some attention, especially since most of the literature is in fact providing explanations for the lack of growth of the Spanish economy.¹⁰

⁹ Spitller and Galy, *Spain*, p.2. However, the matter is not discussed any further.

Graph 1

Real per capita GDP, 1940-1975
million 1980 pesetas, (log scale)



Source: Prados, *Gross Domestic Product*.

As table 1 below shows, the acceleration is particularly steep in the first half of the 1950s.

Table 1
Real GDP annual average growth rate (%), 1941-1970
At factor costs and market prices

	GDPfc	GDPmp		GDPfc	GDPmp
			1941-45	1.12	1.52
			1946-50	1.00	0.96
1941-50	1.06	1.24	1951-55	6.03	6.40
1951-60	4.39	4.71	1956-60	2.74	3.02
1961-70	8.34	8.13	1961-65	9.74	9.62
			1966-70	6.94	6.65

Sources: Own calculations with data from Prados, *Gross Domestic Product*. Variables BVGDPC8 and BVGDMP8.

¹⁰ The emphasis on 1959 as a watershed can be traced back to Fontana and Nadal, "Spain 1914-1970". Other examples in English of this view can be found in Harrison, *Economic History of Modern Spain*, or, more recently, in Lieberman, *Growth and Crisis*, p.2.

Growth was even faster in the industrial sector, see table 2 below, thus suggesting that a structural transformation of the Spanish economy was taking place.

Table 2
Real industrial output annual average growth rate (%)

Prados Carreras			Prados Carreras		
			1941-45	1.63	0.84
			1946-50	3.60	4.35
1941-50	2.62	2.60	1951-55	8.02	8.06
1951-60	6.99	6.83	1956-60	5.95	5.59
1961-70	12.00	10.92	1961-65	13.08	12.09
			1966-70	10.93	9.75

Sources: For Prados, BVPIND8 (real GDP at factor cost of manufacturing, mining and utilities in thousands of millions of 1980 pesetas), in Prados, *Gross Domestic Product*. For Carreras, the IPIES, index of Spanish industrial production, in Carreras, "La producción industrial".

In light of the evidence presented above it seems puzzling how the stagnant view of the 1950s has dominated the literature to the extent that, even when growth in the 1950s was acknowledged, it was deemed to be rather inappropriate.¹¹ Perhaps growth before 1959 was simply the consequence of reconstruction, of resuming the full utilisation of the production capacity of the economy.¹² In fact the pre-war levels of most macroeconomic variables were not regained until the early 1950s, but from

¹¹ "The intense industrial development that indices reflect [in 1951-59] does not mean that it was correctly planned." Tamames, *La República*, p.437. There were, nevertheless, notable exceptions. Rojo emphasised that industrialisation "whether we like it or not" has taken place in Spain basically in the 1939-59 period. Quoted in Braña, Buesa, and Molero, "El fin de la etapa nacionalista".

¹² The claim is implicit in most authors. See Catalán, "Reconstrucción", for an account of the Spanish reconstruction experience.

then on it is difficult to justify growth on a reconstruction basis, especially since the capital stock had surpassed the pre-war level by 1949.¹³

More widely discussed is the claim that growth in the 1950s was unsustainable given its inflationary nature.¹⁴ Table 3 below casts doubts on the validity of the claim that the Stabilisation Plan of 1959 was the unavoidable solution to an inflationary crisis.¹⁵ Inflation in the second half of the 1950s rises significantly yet it is still below the usual figures for the 1940s. More significantly, the standard deviation does not experience any major increase. Low variability of inflation, captured by the standard deviation, renders future inflation and thus profitability more predictable, which in turns affects positively investment and growth.¹⁶

Table 3
Inflation: annual average growth rate
and standard deviations for selected periods

	Annual average inflation rate	Standard deviation
1941-70	7.83	8.49
1941-50	11.85	10.25
1951-60	5.28	4.49
1961-70	6.35	2.80
1941-45	9.34	10.17
1946-50	14.38	9.44
1951-55	2.85	3.79
1956-60	7.70	4.21
1961-65	7.45	3.72
1966-70	5.26	7.76

Source: own calculations using data from Maluquer, "Precios". See appendix E.

¹³ Cubel and Palafox, "The capital stock". See section 5 and appendix C below.

¹⁴ González, *La economía política*.

¹⁵ This is part of the standard account of the 1959 programme. See for example Fuentes Quintana, "Tres decenios".

¹⁶ For a discussion of the importance of the link between investment and growth see Temple, "Equipment investment".

Once again, the first half of the 1950s stands out as strikingly similar to that of the 1960s, the usual suspect for the take-off. Overall, we can conclude that economic growth in the 1950s was substantially much faster than in the 1940s. It should be stressed that it is not a matter of rejecting the significance of the 1959 turning point, but emphasising an earlier one in the first half of the 1950s which coincided with the beginning of American aid, which we now turn to discuss.

3. Extent of aid

American aid over the first ten years of duration of the agreements totalled approximately \$1,500 million.¹⁷ However, much of this corresponded to the later years and figures for the earlier period are more tentative.¹⁸ Estimates are usually produced for cumulative periods, which, together with the inclusion or not of all the numerous aid programmes, helps to explain the bewildering lack of consensus on the amounts of aid. Moreover, any estimate will necessarily depend on what definition of aid is used.¹⁹ Finally, although most aid linked to the Pact of Madrid finally reached the country,²⁰ it is important to distinguish between amounts authorised by the US and the goods actually received in Spain. As we will see later, time lags between the two were to be significant.

¹⁷ \$1,690 m according to Rubottom and Carter Murphy, *Spain and the US*, p.45. Viñas, *Los pactos*, p.315, provides the figure of \$1,523 m. See footnote 20 below.

¹⁸ The best breakdown available is in Rubottom and Carter Murphy, *Spain and the US*, p.44. See also Harrison, *Economic History of Modern Spain*, p.133. On the qualifications to the figures presented see below.

¹⁹ In what follows we consider as "aid" any public capital flow irrespective of what concessional element has. However, we are also interested in the evolution of private capital flows from American banks to the Spanish government, and we will mention all operations known, although these will not be included in the calculations of aid.

²⁰ According to figures from APG, Leg.SU2439, Exp.248, aid that reached the country was, however, short of the two estimates presented above, totalling \$1,426 million for the 1953-63 period. In particular, agricultural surpluses amounted to \$488 m rather than the \$572 m stated in Rubottom and Carter Murphy, *Spain and the US*, p.44.

There are four different stages at which we could look into aid. In most programmes, the US Congress will first earmark sums available to Spain. Specific purchases will then have to be authorised by the relevant agency on request of the Spanish government, which would subsequently grant sub-authorisations to Spanish importers. Finally, the goods will have to be delivered.²¹ Although it is precisely on the last stage that we are most interested in, the available data is still incomplete.²² More often than it would have been ideal, we have had to refer to appropriated rather than delivered aid.

Let us now examine the course of events during the years 1949-1955 and how aid came to be granted and how it evolved in the first stages.²³

The situation of Spain at the end of the 1940s did not look promising at all. Having been left out of the Marshall Plan, things got worse when the Argentines finally stopped in 1949 their shippings of wheat due to lack of payment by the Spaniards.²⁴ The Argentine fiasco meant the country was again, as it had been the case throughout the 1940s, in major balance of payments difficulties while in need of importing foodstuffs to avoid widespread hunger.²⁵

²¹ The US agency originally in charge was the Mutual Security Agency. Its functions were subsequently transferred to the Foreign Operations Administration, then to the International Cooperation Administration and finally to the Agency for International Development.

²² It is important to make this distinction clearer than what it is done in the literature. It is often the case that a "table of imports financed with aid" turns out to provide the data on authorised imports, as in Viñas et al., *Política comercial*, ch.VI, table 11.

²³ For more details see Guirao, "Spain and European Economic Cooperation", ch.4. The most recent account of the negotiations is Liedtke, *Embracing a Dictatorship*. In Spanish see Viñas, *Los pactos*.

²⁴ The Spaniards claimed that, although the price had been fixed in the agreement, there was a gentlemen's agreement by which payment would not be demanded! Guirao, "Spain and European Economic Cooperation", p.265.

²⁵ Per capita calorific intake was at the time below the (already low) 1935 level. Madrid saw hunger demonstrations in early 1950. Hottinger, *Spain in Transition*, p.15

Relief came on 8th February 1949, when the Chase Manhattan Bank approved a loan for \$25 million to the official Instituto Español de Moneda Extranjera (IEME)(Spanish Institute of Foreign Exchange),²⁶ and on 24th March the National City Bank of New York approved another loan for \$20 million.²⁷

These dollars were certainly helpful but also short of the amounts that could be made available under credit programmes sponsored by Washington. The Department of State had indicated that Spain could apply for loans to the Export-Import Bank (Eximbank), although funds would only be loaned on a strictly commercial basis.²⁸ Applications to the Eximbank needed to be for specific projects, be presented by the firms concerned, and contain data justifying the means of repayment. Moreover, the Spanish representatives were informed that a number of factors in Spanish economic policy were seen as impeding the development of trade the earning of foreign exchange, and with them the chances of getting loans from the Eximbank. The items mentioned were an overvalued peseta, excessive controls over imports, the influence of the Instituto Nacional de Industria (INI)(National Industry Institute), and the restriction of 25% on foreign ownership of firms. The Spanish officials felt these were “cold” banking propositions, devoid of any “warmth or cordiality”.²⁹

Although the doors of substantial American aid had not been unlocked yet, there were encouraging signs. It was in the month of February 1950 that the first official US assistance was granted to Spain. The Americans sold 86 million pounds of

²⁶ *FRUS*, 1949, vol.IV, Culbertson to Acheson, Madrid, 17th February, p.729. The Chase Manhattan required gold as collateral for this operation. According to Chamorro and Fontes, *Las bases*, p.42, this loan was extended in \$5 m on 1st January 1950, and the same bank granted another loan for \$12 m on 14th January 1950.

²⁷ Rubottom and Carter Murphy, *Spain and the US*, p.19.

²⁸ *FRUS*, 1949, vol.IV, Memorandum of Conversation, by Mr William B.Dunham of the Office of Western Affairs, Washington, 1st November, p.763.

²⁹ *Ibid.*, p.764-5.

potatoes to the Spanish government, which was able to end the rationing of potatoes that had lasted since the Civil War.³⁰

The exacerbation of the Cold War was to be crucial to open wide the door to aid. The US government, not so long ago “definitely” not in favour of the extension of a general balance of payments loan to Spain,³¹ was now willing to give such assistance to incorporate her into the defence system of the West.³² On 28th August 1950, a few weeks after the outbreak of the war in Korea, the US Congress earmarked \$62.5 million of the Mutual Security Act to be loaned to Spain by the Eximbank.

The Spaniards for once proceeded according to the Eximbank’s requirements, submitting in early 1951 the required recovery plan to qualify for the loan.³³ They were, however, slow in presenting specific projects and the bank complained about the Spanish refusal to take seriously the bank’s policies. By April 1951 only five credits totalling \$17.2 million had been authorised by the Eximbank.³⁴ Even more puzzling was the Spanish unwillingness to actually exercise some of the approved credits, as in the case of the \$3 million allocated to purchase tractors and parts.³⁵

Yet, the American military were determined to go ahead with their new policy towards Spain, and missions were sent in the summer of 1951 to Spain to analyse

³⁰ Rubottom and Carter Murphy, *Spain and the US*, p.19.

³¹ *FRUS*, 1950, vol.III, Acheson to the Chairman of the Senate Committee on Foreign Relations (Connally), Washington, 18th January, p.1554.

³² *FRUS*, 1951, vol.IV, Statement of Policy by the National Security Council, Washington, 1st February, p.790.

³³ Rubottom and Carter Murphy, *Spain and the US*, p.20.

³⁴ \$5 m for cotton, \$5 m for wheat, \$3.5 m for fertilizers, \$3 m for tractors and parts, and \$0.7 m for a fertilizer factory project by Sociedad Ibérica Nitrógeno. Guirao, “Spain and European Economic Cooperation”, pp.284-8.

³⁵ *FRUS*, 1951, vol.IV, The Chairman of the Export-Import Bank (Gaston) to the Embassy in Spain, Washington, 23rd April, pp.845-6. Even the always pro-Spanish Ambassador Griffis acknowledged that the Spaniards were not taking full advantage of what was at their disposal. *FRUS*, 1951, vol.IV, Griffis to Acheson, Madrid, 8th December, pp.855-6.

her military potential and her economic situation. While awaiting the reports of these missions the American government authorised, in September 1951, further assistance in the form of a wheat sale under the Commodity Credit Corporation (CCC) for a value of \$20 million to be paid in pesetas at a exchange rate of 42.50 pesetas/dollar.³⁶

A far-reaching agreement appeared to be imminent.³⁷ However, it would take two more years to be finalised. The negotiations were delayed for a number of reasons. Firstly, the US Secretary of State, Acheson, had to set up a new negotiating team following the death of Admiral Sherman just six days after his meeting with Franco in July 1951. Moreover, Truman had reluctantly accepted the change in policy towards Spain,³⁸ and kept expressing his personal dislike of the Caudillo.³⁹ In addition, in 1951 there were also Presidential elections in the US. Despite the inauguration of the Eisenhower administration, the negotiations did not speed up. The Spanish focus on signing a Concordat with the Vatican⁴⁰ and her unrealistic approach to the bargaining⁴¹ contributed also to the delay.

³⁶ Banco Hispano Americano, *La situación económica en 1956*, p.31.

³⁷ See *The Economist*, 21st July 1951, p.144.

³⁸ *Time*, 4th September 1950 reported that "Congress was bent on compelling President Truman to lend money against his will to Franco".

³⁹ For example, at press conference on 7th February 1952. Preston, *Franco*, p.617. When Acheson recalls, in his memoirs, of the many deep-seated opinions of Truman he gives precisely the example of Truman's views on Franco. Acheson, *Present at the Creation*, p.169.

⁴⁰ Rubottom and Carter Murphy, *Spain and the US*, p.24.

⁴¹ Franco for long believed the Americans would pay any price he would ask. When he realised this was not the case he instructed his negotiators that "in the last resort, if you don't get what you want, sign anything that they put in front of you. We need that agreement". Quoted in Preston, *Franco*, p.623.

In the meanwhile more funds had been earmarked under the Mutual Security Act,⁴² and the Eximbank granted, outside the \$62.5 m line of credit, two loans to purchase cotton for \$12 million in January 1952 and again for the same amount in April 1953.⁴³

The treaties finally signed in September 1953 envisaged aid in two forms, military and economic or "defense support". Military aid in the form of end items amounted to \$407 million up to fiscal year 1959, with actual deliveries being \$315 million.⁴⁴ However, these estimates value second-hand equipment at acquisition cost and thus overstate the actual amount received.⁴⁵ Moreover, it is not unreasonable to think that a large share of these military items would not have been bought by Spain had she had to pay for them. For these reasons we will exclude military aid in our account.

With regard to "defense support", every year the US Congress would vote a Mutual Security Act (MSA) including appropriations for individual countries. The amounts appropriated for Spain are detailed in table 4 below.

⁴² \$100 m on 31st October 1951 and \$25 m on 20th June 1952. Guirao, "Spain and European Economic Cooperation", ch.4.

⁴³ Guirao, "Spain and European Economic Cooperation", table 4.1.

⁴⁴ Whitaker, *Spain and Defense*, p.240. The reference quoted is US Department of Defense, Office of the Assistant Secretary of Defense, International Security Affairs, *The Military Assistance Program: Programs and Deliveries by Area and Country, Fiscal Years 1950-1960*, release of February 26, 1960.

⁴⁵ Whitaker, *Spain and Defense*, p.240.

Table 4
Amount of aid appropriated in concept of
"defense support" (economic aid). In thousands US dollars.

	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59
Agric.products	15,000	55,000*	27,000	18,500	22,784	18,000
Raw materials	15,000	7,690	4,600	35,500	27,366	23,619
Machinery	54,392	21,510	26,400	15,000	4,850	8,381
Technical assistance	607	800	2,000	1,000	1,304	1,239
Total	85,000	85,000	60,000	70,000	56,304	51,239

*: The original proposal for \$30 m was modified by the adoption of an amendment presented by Senator McCarran, a distinguished member of the "Spanish lobby" in Washington. The extra \$55 m were specifically earmarked to facilitate Spanish purchases of American agricultural surpluses.

Source: Rovira, "La ayuda", p.139.

The sale of wheat under the CCC and the McCarran amendment were not going to be the only means through which American agricultural surpluses were shipped to Spain. In the following years, Public Law 480 would be extensively used to provide for this type of sale, which contributed not only to alleviate the situation in Spain but also to provide foreign markets for the American farmer. A summary of aid granted to Spain in this form is provided in table 5 below.

Table 5
Aid in form of agricultural surpluses

	FY1951	FY1952	FY1953	FY1954	FY1955	FY1956	FY1957	FY1958	FY1959
CCC				20.0					
McCarran					55.0				
PL480					47.1	71.8	66.8	111.6	96.4
Total	-	-	-	20.0	102.1	71.8	66.8	111.6	96.4

Source: Banco Urquijo, *La economía española, 1961*.

Agricultural surpluses such as powder milk and other dairy products were also shipped to Spain as grants by the National Catholic Welfare Conference which were distributed in Spain by Cáritas. Although this social assistance constituted a private donation, its institutional nature and large dimension prompt us to include it in our calculations of aid. Table 6 below shows the amounts granted under this scheme.

Table 6
Social assistance by the National Catholic Welfare Conference
in million dollars, calendar years

1954	1955	1956	1957	1958	1959
5	22	31	35	25.6	10.8

Source: Banco Urquijo, *La economía española, 1961*. Chamorro et al., "Las balanzas", provides different figures: \$9.6 m in 1954, \$9.3 m in 1955, \$25.6 m in 1956, \$29.4 m in 1957, and \$25.4 m in 1958.

The US was also going to provide further aid to Spain through the Eximbank, involving now the bank's own funds and not limited to a special provision under the MSA, as it had been the case with the \$62.5 million line of credit granted in 1950. Starting in July 1954 this second phase of Eximbank loans involved \$55.5 million up to fiscal year 1959.⁴⁶ These funds were lent to enterprises on a commercial basis and for specific projects, of which construction of electric plants was paramount.⁴⁷ Table 7 below summarises the activities of the Eximbank in relation to Spain.

Table 7
Eximbank loans authorised by fiscal year
in million dollars

	FY1951	FY1952	FY1953	FY1954	FY1955	FY1956	FY1957	FY1958	FY1959
\$62.5m ^a	17.2	11.5	13.6	10.9	3.3				
Cotton ^b		12.0	12.0						
2 nd phase ^c					1.2	8.5	?	8.9	29.5
Total	17.2	23.5	25.6	10.9	5.5	8.5		8.9	29.5
(Viñas) ^d				(48.1)	(10.9)	(3.3)	(9.8)	(4.3)	(8.0)

⁴⁶ First loan to Compañía Eléctrica de Langreo for \$1,250,000 to build a coal-fired power station. On 7 July 1955 the second loan was given, for \$8m again to an electricity company, Hidroeléctrica Española. A total \$45.5 m went to power stations. Rovira, "La ayuda", p.50.

⁴⁷ Fernández de Valderrama, "España-USA", p.50, gives dates for several (although not all) loans to specific companies: RENFE (\$8m, 3-12-57), Iberduero (\$9.5m, 18-9-58), Enesa (\$15.6m, 11-12-58), Ensidesa (\$4.4m, 18-5-59).

Sources and notes:

^a: For FY1951 *FRUS* 1951, vol.IV, pp.845-6; then Guirao, "Spain and European Economic Cooperation". These only add to 56.5 m.

Harrison, *An Economic History of Modern Spain*, p.133, quotes very different figures: 30.7 m for calendar year 1952 and 18.7 m for 1953. These cannot be right if we compare it with the data provided by the Embassy in Washington, stating that up to 31st December 1953, disbursements on the \$62.5 m loan programme amounted to \$42.9 m. Letter from Ambassador Areilza to Minister Arburúa, Washington, 19th April 1954. MAE, Leg.5289, Exp.1.

According to Rovira, "La ayuda", p.148, the funds were assigned to projects as follows: raw materials 15.8 m, transport 9.7 m, mining 9.8 m, agriculture 9.3 m, foodstuffs 7.2 m, electricity 6.8 m, steel industry 3.8 m. Note that this adds up to 62.4 m.

For details of all beneficiaries of this line of credit see Villar, "El capital público exterior", p.543.

^b: Guirao, "Spain and European Economic Cooperation". Most sources simply do not refer to these two loans, notably Rovira, "La ayuda". Unfortunately we have no record of when were these loans exercised or when did the cotton arrive.

^c: Rovira, "La ayuda", provides details for all loans in FY1955 and FY1956. Fernández de Valderrama, "España-USA", p.50, provides details for loans in FY1958 and FY1959.

[?]: Although Rovira, "La ayuda", or Fernández de Valderrama, "España-USA", do not provide details of loans for this year it seems unlikely that no funds were loaned.

^d: Viñas et al., *Política comercial*, provides aggregated values for the total. Rubottom and Carter Murphy, *Spain and the US*, replicates Viñas' figures. Note how inconsistent our findings are with those figures. Compare this with "by May [1951] Spain had received \$52.5 m out of the total \$62.5 m", Liedtke, *Embracing a Dictatorship*, p.103. These disparities highlight how little is still known about the Eximbank loans to Spain.

Defense support aid generated a counterpart fund in pesetas. The Spanish government was required to pay in pesetas the equivalent value of dollars received, using for that purpose a specified exchange rate of 35 pesetas per dollar.⁴⁸ During the first five years, 60% of counterpart funds of defense support was for base construction, and a further 10% was for US government expenses in Spain. The remaining 30% would be allocated for development projects. Agricultural surpluses sold under PL480 also involved counterpart funds, 50% of which were for development programmes.⁴⁹ Although counterpart funds are not real aid, as it is the

⁴⁸ From 1958 onwards 90% of defense support counterpart funds was made available for development projects. Tamames, *La República*, p.222. The exchange rate was increased to 42 ptas/dollar on April 1957 and to 60 ptas/dollar on July 1959. Fernández de Valderrama, "España-USA", p.24.

⁴⁹ The McCarran amendment had its own terms: \$20 m being a loan, \$24 m a grant and the remaining \$11 m giving rise to counterpart funds, computed at 38.95 ptas/dollar and available for the US government expenses in Spain. PL480 sales were computed at 38.95 ptas/dollar. Baldrich, "Balance", p.37.

Spanish government that puts these pesetas at the disposal of Americans, it could be argued that the Americans might have pushed for projects with these funds, in a way deciding the structure of Spanish public expenditure. The fact is that apart from the construction of bases little was done, especially in the earlier period. The Spanish government deposited a total of 5,046 million pesetas over 1954 and 1955, while disbursements amounted only to 935 million pesetas.⁵⁰ Even base construction proceeded slowly and with relatively little participation of Spanish businesses.⁵¹

Let us now summarise aid, as authorised, in tables 8 and 9.

Table 8
Summary of non-military aid authorised
in million dollars

	FY1951	FY1952	FY1953	FY1954	FY1955	FY1956	FY1957	FY1958	FY1959
Eximbank	17.2	23.5	25.6	10.9	4.5	? 8.0	? 15.5	8.0	29.5
Defense support				85.0	30.0	60.0	70.0	56.1	51.2
Agric. Surpluses				20.0	102.1	71.8	66.8	111.6	96.4
Social ^a				5.0	22.0	31.0	35.0	25.6	10.8
Total ^c	17.2	23.5	25.6	120.9	158.6	170.8	187.3	201.3	202.8 ^b

Notes:

? refers to the qualifications on Eximbank loans as detailed in table 7 above

^a Social assistance corresponds to calendar year

⁵⁰ Banco Urquijo, *La economía española 1954-1955*.

⁵¹ In September 1954 the Americans invited tenders for 30,000 tonnes of cement. No Spanish firm bid, despite Spain's annual production of almost 3 million tonnes. *The Economist*, 30th October 1954, p.396.

^b Includes the loan agreed on 5th June 1959 to RENFE for \$14.9 m under the Development Loan Fund. Fernández de Valderrama, "España-USA", p.51.

^c Note that these values are very different to the "non-military net grants, credits and other assistance" as quoted by Rubbotom and Carter Murphy, *Spain and the US*, p.46, from the US Department of Commerce, *Foreign Grants and Credits by the United States*, Fiscal Year Reports 1957-1963. The figures quoted there are as follows: FY1951/5 140 m; FY1956 117 m; FY1957 135 m; FY1958 78 m; FY1959 118 m. Unfortunately, since they do not provide disaggregated data, we do not know which programmes it is supposed to include or if it is aid committed or actually delivered.

Sources: as detailed in tables 5, 6, and 7 above.

Table 9
Economic classification of aid authorised
in million dollars

	FY1951	FY1952	FY1953	FY1954	FY1955	FY1956	FY1957	FY1958	FY1959
Foodstuffs	5.0			40.0	22.0	58.0	53.5	48.3	28.8
Raw materials	5.0	12.0	12.0	15.0	109.8	76.4	102.3	138.9	120.0
Capital goods ^a	7.2	11.5	13.6	65.9	26.8	36.4	31.5	14.1	39.1
Total	17.2	23.5	25.6	120.9	158.6	170.8	187.3	201.3	187.9

Notes:

^a includes, intermediate goods, plant equipment, and technical assistance

Sources: as detailed in tables 5, 6, and 7 above.

Yet these tables show aid as authorised, not actual deliveries of goods. As it was clear with the case of the Eximbank loans, aid was not taken up quickly. Although it has not been possible to provide an annual breakdown of aid received in the same form as with aid appropriated as done above, we have been able to calculate the

actual amounts received at a particular point in time, 31st March 1956. The details are presented in table 10 below.

Table 10
American aid received by 31st March 1956
in million dollars

	Authorised by ICA	Received
Defense support		
From FY1954	84.4	46.8
From FY1955	29.9	9.7
From FY1956	27.0	1.2
McCarran	54.3	53.8
PL480	49.6	32.6
Total	245.2	144.1

Source: MAE, Leg.4615, Exp.15.

A better date for calculations would be 30th June, so as to cover entire fiscal years. For aid received by 30th June 1957 we have the Subsecretaría de Economía Exterior, Dirección General de Cooperación Económica, *Informe sobre el desarrollo de la Ayuda económica*, no.13. The amount received was \$216.9 m. However, this does not provide disaggregate figures for programmes but rather by individual authorisations granted by the ICA. Unfortunately we have not found these reports for the 30th June of previous years. A selection of these reports can be found in MAE, Leg.6287, Exp.2.

However, the table above does not include social assistance or Eximbank loans. If we include these, we arrive at an approximate figure of \$270 million received in the six years 1950-1955.⁵² The figure is tentative, and the main purpose of the table presented is to highlight the lags in delivering aid. This was especially the case when

⁵² We assume that \$35 m of social assistance and \$91.2 m of Eximbank loans were delivered, as discussed in tables 6 and 7 above.

aid involved goods other than agricultural surpluses as shown by the fact that McCarran and PL480 aid are delivered much faster than defense support.

We have also calculated the amounts of cotton and capital goods that were received by 31st March 1956. Cotton was the single largest item on which aid was spent, while information on capital goods is valuable given their economic importance.

With regard to cotton, by 31st March 1956 Spain had received a total of \$14.3 million from defense support aid FY1954, \$47.8 million from the McCarran amendment, and \$7.3 million corresponding to defense support aid from FY1956. If we include the \$5 million from the \$62.5 million line of credit and the \$24 million Eximbank loan spent in cotton,⁵³ we arrive at a figure of approximately \$93 million received in cotton up to 31st March 1956.⁵⁴ With regard to machinery and plant equipment, by 31st March 1956 Spain had received \$21.5 million. If we add the loans from the Eximbank spent in capital goods over these years the figure is approximately \$60.3 million.⁵⁵

It is clear that we do not even have a complete picture for a particular point in time, let alone a record of how was aid being delivered throughout the entire 1950s. Access to the Eximbank loans folders in the Historical Archive of the Bank of Spain, Eximbank annual reports, and further research at the Ministry of Foreign Affairs in Madrid will most probably be highly productive in completing the picture presented here.

⁵³ As discussed in table 7 above.

⁵⁴ \$152.3 m received by 30th June 1957. MAE, Leg.6287, Exp.2.

⁵⁵ MAE, Leg.4615, Exp.15. Upper bound estimate of Eximbank loans spent in capital goods of \$38.8 m as discussed in table 7 above.

According to what Camilo [Alonso Vega] has told me, the best thing that the Americans did for us was empty the Madrid bars and cabarets of whores, since they almost all marry American sergeants and GIs.

Franco in private. Quoted in Preston, *Franco*, p.627.

4. Did aid matter? Possible transmission mechanisms

Certain accounts of the American assistance programme suggest that the relatively modest amount of aid had little economic impact.⁵⁶ In fact, the Spanish government felt betrayed by the scarcity of American aid,⁵⁷ which was being short of expectations.⁵⁸

However, the vast majority of the literature, although acknowledging the unimpressive dimension of the aid programme, asserts that it had a significant impact in the Spanish economy.⁵⁹ Explanations can be said to fall under two categories, the "relief of bottlenecks", and the "political economy" argument.

The first one states that aid was crucial in allowing the import of goods without which the whole economy would have struggled. Lack of foreign exchange was seen

⁵⁶ Viñas, *Los pactos*, Tamames, *La República*. By the end of the 1950s the Spanish press was extremely critical of the US for the "insufficient" funds made available. See for example *Ya*, 6th February 1958.

⁵⁷ Internal communications within the Ministry of Foreign Affairs often refer to the low level of aid. See the correspondence between the Embassy in Washington and the Ministry of Foreign Affairs in Madrid in MAE, Leg.4615, Exp.15.

⁵⁸ According to Lowi, "US Bases", the US committed themselves to provide \$226 m. A letter from Ambassador Dunn two days before the signing of the treaties stated that "I am authorised to inform His Excellency that my Government has the intention of supplying, in total, the amount of 465 million dollars, depending on the appropriations by Congress, through the period of four years". MAE, Leg.4615, Exp.15.

⁵⁹ García Delgado, "Crecimiento industrial", Clavera et al., *Capitalismo español*. However, little (if any) quantitative evidence is provided. Díaz Berenguer, "La ayuda", is another optimistic account.

as the most important bottleneck in the Spanish economy in the 1950s,⁶⁰ and thus one would expect that the aid-dollars provided a much needed relief.⁶¹ It has also been suggested that the failure to import raw materials and fuels was the key to the Spanish under-performance with respect to Italy.⁶² The second line of argument emphasises the positive impact of lifting barriers to trade and free industry, such as the removal of price controls, on the levels of economic activity.⁶³

When combined, the two arguments are what one can call the traditional interpretation that "industrial growth in 1951-56 was mainly due to increase in imports and relaxation of interventionist policies".⁶⁴ American aid, the argument follows, was crucial in both.⁶⁵ Let us examine first the argument about imports, and then the political economy one.

4.1 Alleviation of bottlenecks and shortages

Aid disbursed, as discussed above, totalled approximately \$270 over the period 1950-1955. This represents 8.2% of the value of Spanish imports for that period.⁶⁶ The comparison of the aid to imports ratio with other American support programmes is striking. For example, between 1953 and 1962 American aid financed nearly 70% of Korean imports!⁶⁷ Even when compared with Marshall Plan aid, Spain fares worse.⁶⁸

⁶⁰ As emphasised in the editorials of *Información Comercial Española*. See for example: "El sector exterior", no.333, May 1961, p.15.

⁶¹ This is the main impact of aid suggested in Shearer, "Significado".

⁶² Catalán, "Reconstrucción", p.377-8.

⁶³ Anderson, *The Political Economy*.

⁶⁴ Clavera et al., *Capitalismo español*, p.257.

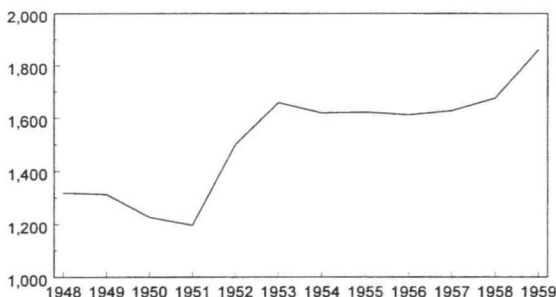
⁶⁵ *Ibid.* Also in Harrison, *An Economic History of Modern Spain*, p.154.

⁶⁶ Own calculations with data on imports from Chamorro et al., "Las balanzas". The figure is 8.3% if we use data from United Nations, *Yearbook of International Trade Statistics*.

⁶⁷ Haggard, *Pathways*, p.55.

Furthermore, if we concentrate on the four years 1950-1953, American aid only amounted to \$66.3 million or 2.4% of imports. Yet, as shown in graph 1 above, the economy was growing in 1950-1953 at a very fast pace. Moreover, for the years 1954 and 1955 we have \$196 million of total aid disbursed (representing over 17% of imports), yet economic growth does not suffer a sudden acceleration. There is a timing problem. If relieving bottlenecks of imports was the crucial influence of aid, one would expect not to see such a fast growth in 1950-53, and faster growth in 1954-55. Moreover, despite the disbursement of aid in 1954-55, imports in real terms in those years did not grow in fact (see graph 2 below) and were still below the 1935 level.⁶⁹

Graph 2
Imports, 1948-1959
in 1913 million pesetas



Source: own elaboration with data from Tena, "Comercio exterior".

Nevertheless, it has be argued that the bottleneck explanation works better with reference to particular industries and/or goods:

⁶⁸ ERP aid to Germany in 1947-9 provided for the majority of imports. Berger and Ritschl, "Germany and the political economy", p.205.

⁶⁹ In 1953 imports reached 87.2% of the 1935 level, then stabilizing at 85.1% and 85.3%. The 1935 level was only regained in 1960. Own calculations with data from Tena, "Comercio exterior".

Given the wide range of bottlenecks in the Spanish economy, an increase in imports, although of not large absolute figures, would have immediate effects, provided imports were directed to those sectors where domestic supplies were more limited.⁷⁰

However, the literature simply stops there. Unfortunately, the most detailed and quantitative analysis of Spanish industry at the time focuses on non-leading sectors, and does not provide estimates of the quantitative relevance of the bottlenecks.⁷¹ To complement the aggregate exposition above we have focused on capital goods, fertilizers, and cotton, all goods that enter in the production function and that might be thought of as being the most effective use of aid-dollars.

The cotton textile industry was working below its capacity because of shortages of both cotton and electricity,⁷² and certainly the imports of cotton due to American aid help this considerably large part of the Spanish economy. Cotton, including the amounts consumed directly and those used as inputs in other industries, contributed 2.8% to Spain's GNP in 1955.⁷³ As discussed above, approximately \$93 million worth of imported cotton was paid with American aid by 31st March 1956. By 30th June 1957 a further \$82 million had been received.

Graph 3 below shows the evolution of cotton imports during the period.

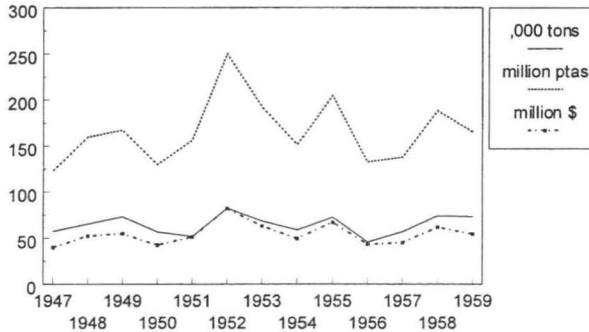
⁷⁰ Clavera et al., *Capitalismo español*, p.254. However, neither this source, nor García Delgado, "Crecimiento industrial", suggest specific commodities to test their hypothesis on.

⁷¹ Catalán, "Industrialización difusa".

⁷² For an impact of electricity shortages see Sudrià, "Un factor", pp.334-5.

⁷³ Calculations based on the Input-Output table for 1955. Instituto de Estudios Políticos, *Tablas input-output*.

Graph 3
Imports of cotton, 1947-1959



Source: own elaboration with data from United Nations, *Yearbook of International Trade Statistics*, various years.

American aid was financing an increasing share of cotton imports, but the total level of cotton imports was not showing any trend to increase. Given that electricity shortages were also much lightened by the mid-fifties,⁷⁴ this casts doubts as to whether the cotton textile industry was really, as the industrialists claimed, working at 20% of its potential.⁷⁵

Although important, the import of raw materials was seen as a second-best option, since Spanish officials recognised that American aid was an opportunity to finance large imports of equipment and machinery. In fact, in 1957, \$7 million of agricultural surpluses from PL480 were actually shipped to Austria and Switzerland, so Spain could import manufactured goods from those countries.⁷⁶ Even before any agreement under PL480 had been signed, the Spanish Commercial attaché in Washington had referred to the “little or zero value of the new agricultural surpluses

⁷⁴ Castañeda and Redonet, “Incidencia”.

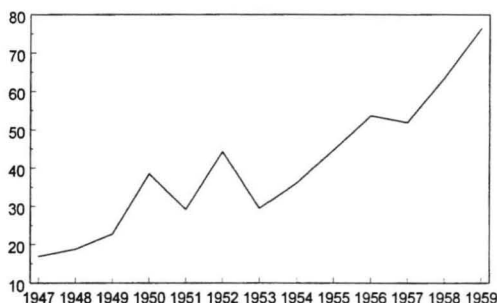
⁷⁵ Sufrin, “The Outlook in Spain”, provides the figure.

⁷⁶ Rubottom and Carter Murphy, *Spain and the US*, p.44.

programmes offered".⁷⁷ However, this contrasts with the fact that the Spanish government would continue to ask from time to time for exceptional sales of wheat.⁷⁸

Let us now consider an intermediate good, such as fertilizers. Graph 4 shows imports of fertilizers over the period that we are interested in.

Graph 4
Imports of fertilizers, 1947-1959
In million \$



Source: United Nations, *Yearbook of International Trade Statistics*, various years.

Although imports of fertilizers show an upward trend, American aid was not used at all to finance these purchases.⁷⁹ Agriculture was in fact the sector less favoured by

⁷⁷ Mr Giménez-Arnau, as quoted in a letter from Ambassador Areilza to Minister Arburúa, Washington, 31st December 1954. MAE, Leg.4615, Exp.15.

⁷⁸ As late as 1st July 1957 Spain asked for an extra delivery of \$20 m in wheat. MAE, Leg.6287, Exp.1. Similarly, as shown above, the loans from the Eximbank were not being fully taken up.

⁷⁹ MAE, Leg.6287, Exp.2.

aid-dollars, receiving in total \$13.2 million up to 30th June 1957.⁸⁰ This figure suggests that the direct impact of American aid in the agrarian sector was extremely limited.

Let us now consider the imports of capital goods. That American assistance allowed Spain to import machinery and equipment has been emphasised in the literature as one of the most important contributions of the aid programme.⁸¹ As discussed above, imports of machinery and capital equipment paid with American aid amounted to \$60.3 million by 31st March 1956, and mainly concentrated over three years. The approximate annual average of \$20 million represents less than half of the annual average of the (very low) capital goods imports during the purely autarkical years.⁸² This figure compares even worse with those of capital imports for the period: \$152.4 million in 1953, \$154.5 million in 1954, and \$196.4 million in 1955.⁸³ If we also consider that these capital goods were incorporated in projects with a certain maturing period until they would start producing,⁸⁴ it seems unlikely that the import of capital goods paid with American aid had a crucial impact on Spanish economic growth in the 1950s.

Nevertheless, there was a significant change in the structure of imports. Although total imports did not increase, those of capital goods (and thus their share in total imports) did so substantially.⁸⁵ See graph 5 below on capital goods imports.

⁸⁰ This includes tractors, agricultural machinery, equipment for the Ministry of Agriculture and seeds. MAE, Leg.6287, Exp.2.

⁸¹ For an extremely optimistic view see Rubottom and Carter Murphy, *Spain and the US*, p.21.

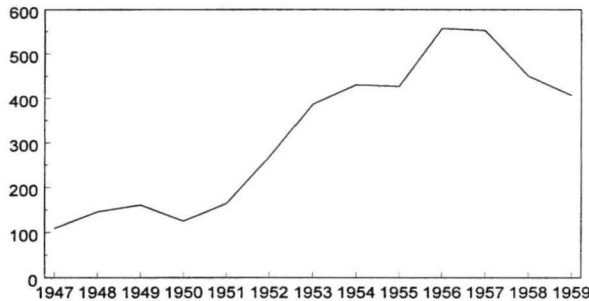
⁸² Annual average for 1945-49 was \$44.6m. Calculated with data on imports of capital goods from González, *La economía política*.

⁸³ González, *La economía política*.

⁸⁴ For example \$4m from FY1954 were assigned to ENSIDESA, the steel project of INI. MAE, Leg.4615, Exp.15. This steel project was not expected to start production until 1958, Clinton Pelham, *Economic and Commercial Conditions*.

⁸⁵ González, *La economía política*, p.103.

Graph 5
Imports of machinery and transport equipment
(except cars), 1947-1959. In million dollars



Source: United Nations, *Yearbook of International Trade Statistics*, various years.

This was, however, the reflection of the on-going import-substitution industrialisation strategy.⁸⁶ The adoption in December 1948 of a multiple exchange rate regime favouring capital over consumption goods imports,⁸⁷ and the impact of the devaluation, which followed the European ones in 1949, seem to be more important than the granting of American aid in explaining Spanish foreign trade.⁸⁸ The real depreciation of the peseta in the early 1950s⁸⁹ explains not only the improved export performance in those years but also the sudden rise in imports in 1950-52 since, given the lack of foreign credit, imports were constrained by foreign exchange earned through exports.

Overall, although imports financed with American aid were certainly a positive contribution, they cannot fully account for the spurt of growth in the Spanish

⁸⁶ Donges, "From an Autarkic".

⁸⁷ Tamames, *Estructura Económica de España*.

⁸⁸ Serrano and Asensio, "El ingenierismo cambiario".

economy. Professor Sufrin, head of American economic mission to Spain in 1951, estimated that with aid in the order of \$130 million the first year and \$195 million over a period of four years, Spanish industrial output could be growing at 6-8% p.a. while agricultural output could expand at 12-20% p.a.⁹⁰ Wheat output grew at annual rates above 20%,⁹¹ and industry too experienced the sudden growth that we have seen in table 2 above. But these were achieved already in the 1951-53 period in which aid authorised (let alone disbursed) added up to less than \$70 m for the three years as a whole!

4.2 Political economy links

The second part of the traditional argument suggests that economic growth resumed as the restrictions that swept the economy were lifted. The Americans demanded Spain to commit herself to openness to international trade and internal liberalisation, and, to the extent that these lead to economic growth, the latter could be seen as a by-product of the aid programme.

Observers were quick to suggest that the deal with the Americans would translate in a better management of the Spanish economy.⁹² However, this should not be overemphasised. Americans pressed for deregulation and openness not only because of their free-trade convictions, but more importantly because of the need to guarantee a stable environment that would not disrupt their use of the military bases. Aid was merely a *quid pro quo* for the use of the bases. The Americans were aiming at minimising their grants and involvement provided they were just enough "to insure internal stability in Spain so that the use of our bases there would not be

⁸⁹ See appendix F.

⁹⁰ Sufrin was not in favour of a large aid package that he thought the Spanish economy could not "digest". Sufrin, "Outlook in Spain", p.7.

⁹¹ Barciela, "Crecimiento y cambio", p.266.

jeopardized by civil disorders".⁹³ This explains the continuous concern about inflation in Spain by the American authorities, and their insistence in delivering consumption goods so that inflationary pressures were kept down.⁹⁴ Provided there was stability, the Americans will not twist Franco's arm to make him comply with the economic ideology signed in the Pact of Madrid.⁹⁵

How effective were these pressures is an irresolvable issue. The relative success of Spanish policy-makers in the anti-inflationary front has already been noted in section 2 above. Although it is difficult to precise the effect of the American pressures, there is evidence that the Spanish government took this point on board when pointed out by the Americans.⁹⁶

However, little else apart from the fight against inflation was accomplished. During the following years Americans insisted in their complaints on the restrictions to foreign direct investment, never getting the expected response from the Spanish government.⁹⁷ The recurrent voicing of American concerns about what Spanish diplomatic sources referred to as "the usual topics of freeing foreign investment and

⁹² "If Americans intend to see that any aid given is efficiently and honestly used, then it is probable that some change in the corrupt and tyrannical habits of the Franco regime will follow". *The Economist*, 21st July 1951, p.145.

⁹³ This was also the personal view of President Eisenhower. *FRUS*, 1955-1957, XXVII, Memorandum of Discussion at the 248th Meeting of the National Security Council, Washington, 12th May 1955, p.539.

⁹⁴ For the emphasis on inflation see Sause, "Algunos aspectos".

⁹⁵ "Will the government of the US be willing to channel aid in the most favourable way for Spain? We doubt it", Fuentes Quintana and Plaza Prieto, "Perspectivas", p.112.

⁹⁶ Letter from Ambassador Lodge to Minister Martín Artajo, Madrid, 23rd November 1956, asks for more anti-inflationary measures. Minister Martín Artajo replies to the American Embassy on 7th January 1957 with the promise of interest rates hikes and public expenditure cuts.

Balfour, *Dictatorship*, p.23, states that the rise in tram fares in Barcelona in 1951 (which gave rise to a general strike) was the result of American pressure to contain private demand.

⁹⁷ MAE, Leg. 7741, Exp.3. Letter from Ambassador Lodge to Minister Martín Artajo, Madrid, 23rd November 1956.

remittances"⁹⁸ could be interpreted as a sign of a failure to imbue the economic orthodoxy in the Spanish policy-making.

Nevertheless, some Spanish policy-makers did wholeheartedly convert to economic liberalism. The government that resulted from the reshuffle of 18th July 1951⁹⁹ proved to be surprisingly pro-liberal in economic ideology.¹⁰⁰ Cavestany, appointed Minister of Agriculture, had been himself an agricultural entrepreneur, while the new Minister of Commerce Arburúa was an international banker. They were both believers of the role of free prices and did express so accordingly.¹⁰¹

Some liberalisation did occur. The most visible was the end of rationing. The rest of the alleged liberalisation was the progressive elimination of the discretionary system of import licences and the introduction of a general tariff, which was nevertheless extremely protective.¹⁰² The change was marked in the attitudes of certain policy-makers. Foreign Affairs Minister Martín Artajo concluded that the most important element of the deal was its spirit, summarised in the need for a healthy economy based on monetary and budgetary discipline.¹⁰³ In fact, in the treaty itself signed on 26th September 1953 Spain committed itself:

(b)To stabilize its currency, establish or maintain a valid rate of exchange, balance its governmental budget as soon as practicable, create or maintain internal financial stability [...]

⁹⁸ MAE, Leg.4615, Exp.15, Letter from Ambassador Areilza to Minister Arburúa, Washington, 31st December 1954.

⁹⁹ This reshuffle has been interpreted as a gesture towards the Americans. Esteban, "Economic Policy of Francoism", pp.93-4.

¹⁰⁰ *The Economist*, 28th July 1951, pp.232-3, in an article titled "No Change in Madrid" qualified the appointment of Cavestany as Minister of Agriculture as "routine promotion" and doubted whether Arburúa would be able to make any difference. By 25th August, *The Economist*, p.433, was praising the "patent and laudable desire to do away with some of the onerous controls over production".

¹⁰¹ For a taste of Arburúa's free-market endorsement see his article in *Arriba*, 25th February 1950. Details of ministers in *Equipo Mundo, Los 90 Ministros*.

¹⁰² Spitäller and Galy, *Spain*, p.5f.

¹⁰³ Speech by Minister of Foreign Affairs Martín Artajo to the Cortes on 30th November 1953. MAE, Leg.7741, Exp.2.

(e)To discourage cartel and monopolistic business practices [...], to encourage competition and productivity and to facilitate and stimulate the growth of international trade by reducing barriers which may hamper such trade [...]¹⁰⁴

However, this was little more than rhetoric. This was the same country with an industrial law in force stating that "Spain must be redeemed from the importation of exotic products and must be forced to produce everything it needed".¹⁰⁵ Foreign ownership of Spanish firms was still limited to 25%, and the expropriations of the Barcelona Traction and the Rio Tinto Company highlight how little the situation improved during the 1950s.¹⁰⁶ Moreover, the government, if anything, intensified the establishment of national industries under INI.¹⁰⁷ Crucially, the system of licenses through which any new industrial facility had to ask the bureaucracy for permission would not be repealed until 1960.¹⁰⁸

Most analyses stress the gradualism and slowness of reforms during the 1950s,¹⁰⁹ and agree that by the end of the decade the Spanish was an economy still overloaded with distortions.¹¹⁰ The lack of specific measures adopted suggests that the reform programme was little more than words and promises by certain cabinet members. If this is so the case, why did growth resume so vigorously? Why were promises enough to convince businessmen?

¹⁰⁴ Article II, paragraph I, Economic Aid Agreement signed on 26th September 1953. MAE, Leg.4615, Exp.15.

¹⁰⁵ Industrial Law of 24 October 1939. Carr and Fusi, *Spain*, p.50.

¹⁰⁶ Gómez Mendoza, "The cost of Francoist economic policies".

¹⁰⁷ Martín Aceña and Comín, *INI. 50 años*.

¹⁰⁸ Buesa, "Las restricciones", p.110.

¹⁰⁹ García Delgado, "Crecimiento industrial", p.290, Prados and Sanz, "Growth", p.362.

¹¹⁰ This was especially the view of contemporary foreign observers. See, for example, *The Statist. International Banking Supplement*, 13th December 1958, p.115.

Spain is to receive an economic aid, which volume is not in our view the most important, but the influence that it could have on the normal development of our economy.

Editorial of the fortnightly *Economía*, 30th September 1953.

4.3. The credibility hypothesis

Despite the amount of American aid actually delivered is seen as relatively small, we suggest that American support was instrumental in enhancing the credibility of the government. It secured the Franco regime and also made it committed to stability (as we have seen with the anti-inflationary policies) and to furthering pro-market reforms. The few changes that got through were signalling that more were on the way, and private investors anticipated that future moves were in the direction of a liberal market economy. In short, improved credibility was perhaps the main gain from American support.¹¹¹

That businesses' expectations changed as early as the return of Ambassadors to Madrid in 1950 has been suggested elsewhere.¹¹² Yet, in a world of rational individuals expectations do not change randomly. It would be an easy and unimaginative way to suggest that Spanish investors (perhaps due to the well-known hot bloodedness of Spaniards or any other culturally embedded explanation) were

¹¹¹ A similar argument for Germany was put forward by Berger and Ritschl, "Germany and the political economy".

¹¹² González, "La autarquía económica". This paper shares that concern with the role of expectations. However, González, from a property rights paradigm, suggests that through deregulation and liberalisation property rights were better defined in the 1950s and thus generated growth. It also suggests that American aid had the consequence of expanding the production possibilities frontier. However, it provides no evidence on any of the suggested hypotheses. Moreover, the property rights approach requires that policies and regulations actually changed. Our thesis is different in the sense that it suggests that the main impact of American aid came through changed expectations which were not primarily prompted by deregulation and liberalisation by the American support in itself. Fraile, "Industrial policy", points at the importance of expectations although does not provide any further discussion.

simply fooled by the promise of the American *manah*. We should thus provide a rational explanation to why investors modified their expectations precisely in the early 1950s.

The remaining of this dissertation is devoted to elaborate a theoretical framework for this “credibility hypothesis” and, in the next section, to produce some evidence in support of it.

In simple game theory¹¹³ terms we suggest an explanation for the effectiveness of American aid in enhancing the credibility of the government and making investment profitable.

Let us suppose we have two players, the government on one hand and a group of investors on the other. Investors decide whether to invest or not (decided in $t=0$ and a binding decision until the end of $t=1$). Suppose that if investors do not invest, production (Y) equals 100 and if they invest (incurring a cost of 50) production in time $t=1$ rises to 200.

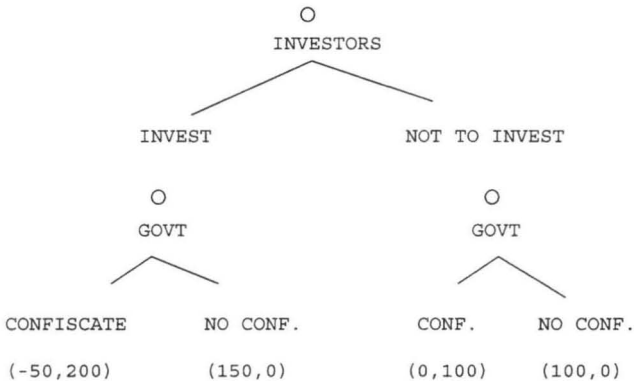
In a sequential game,¹¹⁴ the government then decides whether to carry out “confiscatory” policies (interpreted as a 100% tax rate –one can think also in terms of a confiscation of assets by a revolutionary government that replaced Franco) or, alternatively can leave investors without taxing them at all (interpreted as the continuity of the regime). The game is presented in its extensive form in figure 1 below.

¹¹³ Our analysis will be of a non-cooperative nature, as opposed to cooperative game theory in which it is assumed that the agreements reached between the players are binding. Were we to assume binding contracts we would precisely be interested in what makes those contracts binding. For this reason we restrict to non-cooperative game theory. For definitions and explanation of these issues see Kreps, *Game Theory and Economic Modelling*, p.9.

¹¹⁴ The outcome of the game does not change if we assume simultaneous moves with no information on the other player's move.

Figure 1

Game 1: investors and government without commitment technology
(Payoffs for investors first)



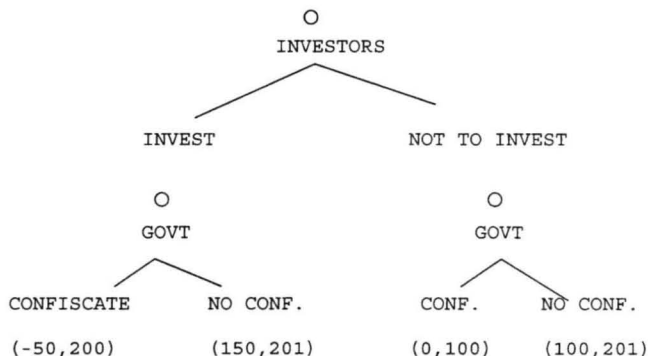
As depicted above the government has a dominant strategy to “confiscate” because no matter what investors do, the government is better off by confiscating. Investors will realise this, and decide not to invest, which will leave them better off [0 cf. - 50]. The only Nash equilibrium is the pair of strategies “not invest” and “confiscate”. Announcements that the government will not confiscate will not be credible¹¹⁵ under the above circumstances.¹¹⁶

Let us now suppose that the government will receive a grant of 201 if non-confiscatory policies are followed. The tree is depicted in figure 2 below.

¹¹⁵ To give a strategic move credibility the player has to take some other supporting action that makes reversing the move too costly or even impossible. Dixit and Nalebuff, *Thinking Strategically*, p.124.

¹¹⁶ For a discussion of credibility and of ways to measure it see Borner et al., *Political Credibility*.

Figure 2
 Game 2: investors and government with commitment technology
 (Payoffs for investors first)



The government now has a different dominant strategy, namely not to confiscate. Note that the outcome of the game does not depend on *ex post* results but on *ex ante* perceptions of what the different policies will entail. In fact, it is not the actual but the expected payoff what drives decisions in this model, thus diluting somehow the strength of the criticism that the expected payoffs seem to be unfeasible to quantify.

Admittedly, the parameters and lay out of the game chosen are arbitrary. Furthermore, cooperation will be more likely if players possess complete information about the other player's past performance, when there are small numbers of players, or if the game is to be repeated an indefinitely number of times, as these might give rise to self-interested reasons to cooperate and thus possibly change the outcome of the game.¹¹⁷

¹¹⁷ Axelrod, *The Evolution of Cooperation*, p.31.

Despite its crudeness, this way of modelling might be a useful guide in the search for explanations on how and when can foreign aid help a domestic government to gain credibility. Game theory has made a breakthrough in the analysis of institutions,¹¹⁸ and recent literature on postwar European growth has focused precisely on how countries were able to commit to openness.¹¹⁹ The analysis presented above can help us understand, using Popper's sentence, the logic of the situation.

Resolving commitment problems raises the predictability of the government and thus it encourages economic activity.¹²⁰ Any regime, and an authoritarian one perhaps even more, needs to resolve the paradox that a government strong enough to enforce property rights is also able to confiscate its citizens' wealth, and thus might discourage private economic activity.¹²¹ In the case of Franco's Spain this was achieved by bringing in a foreign power with the capacity, and the interest, to enforce stability in the country. The Pact of Madrid secured the Spanish government and, to a certain extent, tied its hands (for example to an anti-inflationary policy). By doing so, it raised the predictability of the policies and contributed to a positive business sentiment.

5. Testing the credibility hypothesis

This section presents evidence in support of the hypothesis that American aid had a significant impact on altering the expectations and sentiment of the business community.

¹¹⁸ North, "Institutions", and especially Greif, "Recent developments".

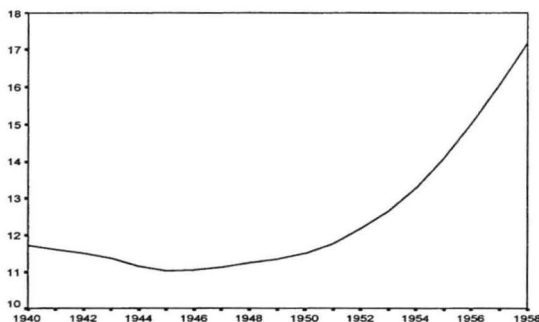
¹¹⁹ Eichengreen, "Institutions and Economic Growth"

¹²⁰ North and Weingast, "Constitutions and commitment".

¹²¹ See Weingast, "The Economic Role of Political Institutions".

The first variable we are interested in looking at is investment, and, related to it, capital stock. Until very recently there were very few estimates of capital stock for the Spanish economy.¹²² Recent research on this difficult task allows us to present an estimate of private net capital stock in graph 6 below.¹²³

Graph 6
Private net stock of capital
(in billion of 1990 pesetas)



Source: Cubel and Palafox, "The Capital Stock".

The data shows that private investment picks up in the early 1950s.¹²⁴ However, this does not imply that this spurt of growth in private investment was causally linked to the granting of American aid. In the absence of a comprehensive measure for "business confidence" that we could use in regression analyses, we will have to

¹²² Universidad Comercial de Deusto, *Riqueza nacional de España*, and Cossío, "El factor capital" were the only post-war attempts. Carreras, "Gasto Nacional Bruto", provides estimates of investment to GDP ratios. All these sources combine public and private investment and capital.

¹²³ Both Cubel and Palafox "The Capital Stock", and Hofman, "The capital stock", use perpetual inventory methods to calculate the stock of capital, requiring thus certain assumptions on working lives, depreciations, etc.

¹²⁴ In order to test for a structural break an econometric model of investment was attempted. See appendix H.

make use of a variety of indicators to suggest that enhanced business sentiment did in fact play a key role.

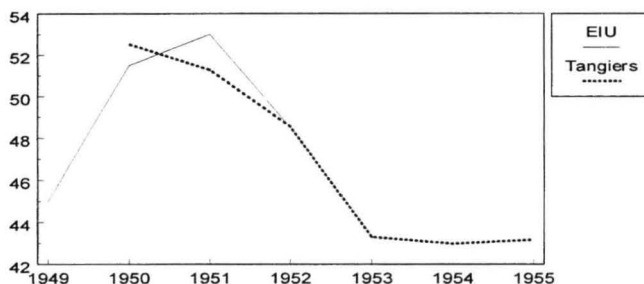
In a country with a floating exchange rate, we can interpret episodes of real appreciation of the domestic currency *vis-à-vis* relatively safer currencies as indicative of increased confidence in the management of the economy. Spain, however, had an extremely cumbersome multiple exchange rate regime, in which the peseta was fixed at different (and generally overvalued) rates according to the type of transaction and goods involved. The system was in itself a deterrent to undertake export-import businesses.¹²⁵ Nevertheless, there certainly existed a black market for dollars in Spain, and, more importantly, there was a free market for foreign exchange in the North African city of Tangiers. We can then look at the reaction of the peseta curb market for signs of improved confidence in the future of the Spanish economy.

The impact of the signing of the Pact of Madrid had a significant short-term effect. In September 1953 in Tangiers, the peseta was traded at 43.55 pesetas/dollar, dropping to 42.50 pesetas to a dollar in October.¹²⁶ Graph 7 below shows the evolution of the foreign exchange curb market on an annual basis. We interpret the appreciation of the peseta in the early years of the 1950s as a sign of resumed confidence.

¹²⁵ PRO, FO 371/79665, Spain: Annual Review for 1948, Mr Howard to Mr Bevin, Madrid, 9th February 1949.

¹²⁶ Banco de España, *Informe sobre la evolución de la economía española en 1957*, p.137. Despite being an official source, it quotes the Tangiers exchange rate.

Graph 7
The peseta unofficial market
(pesetas per US dollar)



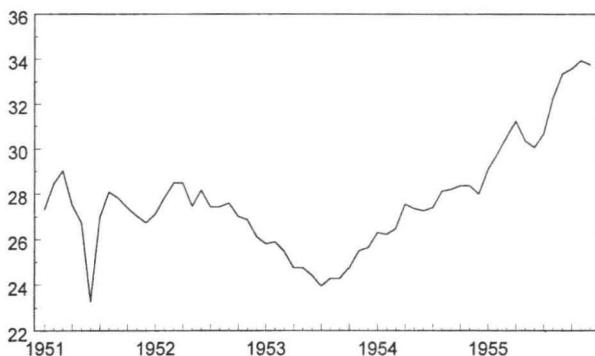
Sources:

“EIU” refers to the curb market as reported in The Economist Intelligence Unit, *Economic Review of Spain*, various issues.

“Tangiers” refers to the exchange rate in the market of Tangiers as quoted in Clavera et al., *Capitalismo español*, p.270.

Similarly, one of the first places to look at when matters of business sentiment are discussed is the stock exchange. Given the volatility of the stock exchange, we focus on the period 1951-55 to try to capture the immediate impact of the announcements of American aid to Spain. Graph 8 below shows the monthly evolution of the stock exchange general index.

Graph 8
 Monthly real index of shares in Spanish stock exchange
 (markets of Madrid, Barcelona, and Bilbao)
 general index corrected by the wholesale price



Source: Instituto Nacional de Estadística, *Boletín Estadístico. Publicación mensual*, various issues.

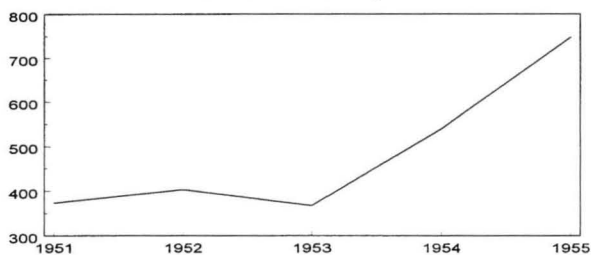
The change in the index around the signing of the Pact of Madrid is clear. The very short-term impact -not captured by these monthly indices- was probably spectacular. For contemporary observers there were no doubts that the signing of the treaties was the most determinant cause of the strong reaction of the stock exchange.¹²⁷ More important than the short-term reaction is the break in a longer-term downward trend, as suggested in graph 8 above. This shift from a bear to a bull market can be interpreted as a sign that investors were discounting future economic growth.¹²⁸ It was not only the stock exchange index that experienced a sustained rise. The turnover in the market for shares also went up significantly in the years after the deal with the Americans had been reached, as shown in graph 9 below.

¹²⁷ See the weekly *España Económica*, 10th October 1953, p.815.

¹²⁸ Barski and De Long, "Bull and Bear Markets", p.269, suggests that even small changes in prospects for economic growth rates can justify large swings in the stock markets.

Graph 9

Real trading volumes in shares in Spanish stock exchange
(markets of Madrid, Barcelona, and Bilbao)
in millions of 1942 pesetas



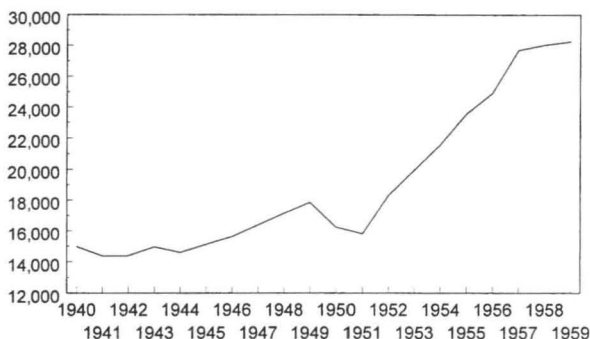
Source: Instituto Nacional de Estadística, *Boletín Estadístico. Publicación mensual*, various issues. Nominal volumes have been deflated using deflator BPGDPMP8 from Prados, *Gross Domestic Product*. See appendix G.

Overall, both national and foreign analysts coincide in the positive impact on the stock exchange of the signing of the agreements. Significantly, the impact does not seem to have been a short-term one.¹²⁹

However, looking at the stock exchange only gives us a limited picture of the economy since it ignores firms whose shares are not traded in the market. Graph 10 below presents the information available on the capital subscribed by all Spanish firms that were in business.

¹²⁹ Rogers, *Economic and Commercial Conditions in Spain, 1956*, p.80.

Graph 10
Real capital disbursed by operating firms
in millions of 1940 pesetas



Source: Tafunell, "Asociación mercantil". Nominal figures have been deflated using deflator BPGDPMP8 from Prados, *Gross Domestic Product*. See appendix D.

Although the drop in 1950 and 1951 is puzzling, the graph shows a steady increase from then onwards, which could be interpreted as evidence that the business community was feeling confident and willing to raise new capital.

Graphs 6 to 10 above show that private investors, the unofficial foreign exchange market, and the stock exchange, were all responding positively to the new situation in the early 1950s, and can be used to support the view that confidence was in fact improving. There are other pieces of evidence that point in the same direction.

The references to the unwillingness of the Spanish business community to undertake investment in the late 1940s and early 1950s are numerous. American sources refer clearly to "the reluctance of private capital to move into certain sectors of the

economy".¹³⁰ For example, when in 1950 the Bilbao steel interests were invited to participate in the share capital of INI's steel project ENSIDESA, they declined the offer.¹³¹ Perhaps they did not feel comfortable dealing with a group such as the INI, not concerned with profit maximisation but with Spanish industrial self-sufficiency. However, the Spanish private capital had no major problems in joining an INI project like the refinery in Escombreras. It can hardly be seen as irrelevant that in this latter project the American company Caltex was one of the shareholders.¹³²

Foreign firms examined the possibility of investing in Spain. In the autumn of 1952, the US Secretary of Commerce, the president of the Eximbank, and Henry Ford Jr. all visited Spain, the latter with the idea to explore the possibilities of resuming production in Spain.¹³³ However, the participation of Caltex in the Escombreras refinery was something like an exception. Little foreign direct investment took place, mainly due to the persistence of Spanish authorities in not lifting the restrictions on foreign ownership of firms,¹³⁴ and in fact some companies actually pulled off.¹³⁵

However, the capacity of Americans to "signal" was probably very significant, especially in the case of large projects, such as the refinery that we have referred to. Our theoretical framework helps to explain these episodes particularly well. Large

¹³⁰ Report of Special Study Mission of Foreign Affairs Committee of the House of Representatives. December 1961. In MAE, Leg.7741, Exp.2. The passage refers to the early 1950s. See also footnote 1 above for Culbertson's succinct exposition.

¹³¹ Clinton Pelham, *Economic and Commercial Conditions in Spain. 1951*, p.4.

¹³² Rogers, *Economic and Commercial Conditions in Spain, 1956*, p.64. REPESA, the company owning the refinery, was constituted on 27th June 1949 with 325 m ptas of which INI had 52%, CEPESA (owned by Banco Central) had 24% and Caltex Oil Products the remaining 24%. On 11 June 1952 the owners of REPESA subscribed a further 150 m ptas of capital maintaining the proportions. *Economía*, 30th December 1954.

¹³³ Economist Intelligence Unit, *Economic Review of Spain*, no.4 Dec 1952.

¹³⁴ Although, surprisingly, the Economist Intelligence Unit reports of some companies with 50% foreign ownership. *Economic Review of Spain*, no.5, April 1953, p.6.

¹³⁵ Ford will finally pull off in 1954, see Carreras and Estapé, "Organizational complexity".

industrial projects are the type of assets that are more prone to be nationalised in the event of a change of policies or of regime altogether. Moreover, large sunk costs will make it particularly important to enjoy relative price stability. A certain security that the government will last and that changes in policies would be, if anything, pro-market reforms, are conceivably especially relevant for these type of projects. In our framework it is not surprising that,

[a]t the end of 1953, and perhaps due to the agreements with the US, we have seen a new trend [...] to build new and important power-stations.¹³⁶

6. Conclusion

This dissertation has explored the hypothesis that American aid to the Spanish economy in the 1950s did have a significant impact in the resumption of growth through a positive effect on Spanish business sentiment.

A prerequisite to test any hypothesis is to establish the precise amounts of aid disbursed. As it has been made clear above, a full account is not still available and further research in this area will be valuable.

Some of the possible transmission mechanisms from American assistance to economic growth discussed in the literature were also reviewed. We conclude that the direct impact of aid in the Spanish economy through the relief of supply bottlenecks could not explain the economic growth recorded. Similarly, it has been contended that the argument that deregulation and liberalisation spurred growth cannot fully account for the Spanish experience in the 1950s, since not much was in fact liberalised.

¹³⁶ Banco Urquijo, *La Economía española 1952-53*, p.30

This dissertation provides a rationale for the “credibility hypothesis”, and then tests it with evidence such as observers’ reports, stock exchange evolution, and aggregate figures of private investment. To underpin the causal link it will be necessary to undertake research on a micro business level, an area of Spanish economic history in its infancy. Still within the business history sub-discipline, a totally ignored aspect here relates to firms’ organizational aspects. Issues such as how did the presence of American contractors affect the technical skills of specialised workers and the way firms were organised would certainly be worth of study.¹³⁷

Despite the game theoretical analysis can be criticised as simplistic, its explanatory power should not be underestimated. Our framework can help explain the timing of reforms, including the 1959 Stabilisation Plan. Following American support and resumed growth in the 1950s, Franco’s power was by the end of the decade much more strongly consolidated than in the 1940s. It can be argued that as the future of the regime was secured, it moved away from short-term survival maximisation and, as an unchallenged autocracy, developed an interest in promoting long-term economic growth.¹³⁸ Although not explicitly considered here, this is one of the many ways in which we can relate the Spanish case to the issues discussed in the literature on the political economy of reform and stabilisation packages. Recent contributions have provided formal models of the reasons why these programmes are delayed¹³⁹ and the circumstances under which foreign aid will foster the adoption of stabilisation programmes.¹⁴⁰ The lack of discussion of them should not be interpreted

¹³⁷ See the recent papers by Carreras and Tafunell, “Spanish Big Firms”, and Carreras and Estapé, “Organizational complexity”.

¹³⁸ As in McGuire and Olson, “The Economics of Autocracy”. The problem with this view is that Franco’s stance is very difficult to label under any category (benevolent dictator?, survival maximiser?, unchallenged autocrat with long-term concerns?). Throughout his life he kept an eclectic approach to economic policy, and he only unwillingly agreed on the 1959 stabilisation package: “Do whatever you want” was his comment to the new suggestions by his new ministers. Hottinger, *Spain in Transition*, p.24. For an account of the “peculiar” approach to economics of Franco see Fontana, “Introducción”.

¹³⁹ Alesina and Drazen, “Why Are Stabilisations Delayed?”

¹⁴⁰ Casella and Eichengreen, “Can Foreign Aid Accelerate Stabilisation?”.

as a dismissal of their value. Game theory has also been successfully employed to justify the concept of development traps, which are seen as the “bad” or low level equilibrium in a game with multiple equilibria.¹⁴¹ Although our analysis can be seen as providing a rationale for a development trap (low investment due to lack of credibility/stability), in our explanation the trap does not arise because of the existence of multiple equilibria. Again, that avenue is worth exploring.

More specifically, our discussion supports the view that the Spanish case can be seen as an example of both the counterfactual of the Marshall Plan and of the impact of American aid.¹⁴² The Spanish experience in the 1940s can be thought of as what would have occurred throughout Europe had the Marshall Plan not been implemented, with state intervention dominating economic policy.¹⁴³ However, the 1950s can be approximated to the experience of the recipients of Marshall aid.

On broader terms, our study supports the view that openness leads to convergence,¹⁴⁴ but not only in the way it is usually emphasised (such as specialisation according to comparative advantage, economies of scale, or increased competition) but especially in the indirect way of enhancing stability and raising predictability of the government with the subsequent positive impact on businesses’ expectations.

Overall, it seems plausible that expectations and confidence enhancement played a decisive role in the resumption of Spanish economic growth. The difficulties in quantifying and assigning precise relevance to the credibility hypothesis should do but motivate further research.

¹⁴¹ Murphy, Schleifer, and Vishny, “Industrialization and the Big Push”.

¹⁴² Prados and Sanz, “Growth”, p.363.

¹⁴³ The view that this was the most significant contribution of the ERP can be found in Eichengreen and Uzan, “The Marshall Plan”.

¹⁴⁴ As argued for Spain in Tortella, “Patterns of economic retardation”.

7. Appendices

Appendix A. Details of "defense support" aid as appropriated In current thousands US dollars.

	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59
Agric. products	15,000	55,000	27,000	18,500	22,784	18,000
Cotton	15,000	49,000	20,000	-	15,784	15,150
Meat	-	-	5,000	-	-	-
Eggs	-	-	1,500	2,500	-	1,280
Soy oil	-	6,000	-	14,000	6,000	-
Barley	-	-	-	2,000	1,000	-
Soy flour	-	-	-	-	-	1,570
Raw materials	15,000	7,690	4,600	35,500	27,366	23,619
Coal	1,225	3,190	1,700	7,965	13,194	8,500
Copper	2,660	900	-	11,960	4,500	3,900
Scrap metal	3,650	1,800	1,000	5,782	4,820	3,000
Steel products	3,045	900	-	750	1,859	5,000
Misc.	4,420	900	1,900	9,043	2,993	3,219
Machinery	54,392	21,510	26,400	15,000	4,850	8,381
RENFE	11,000	4,500	9,000	5,000	-	116
Civil aviation	768	900	886	500	39	539
Public works	5,000	720	-	-	838	2,563
Electricity	-	5,400	8,000	4,500	999	708
ind.	12,196	2,340	-	-	-	-
Defense ind.	3,428	-	626	-	-	-
Steel ind.	8,012	-	1,500	-	-	-
Cement ind.	2,282	-	-	-	717	207
Mining	1,954	-	-	-	-	-
Textile ind.	-	3,330	5,000	5,000	2,007	3,614
Agrarian	8,452	4,230	-	-	-	355
equip.	-	90	-	-	250	279
Shippings	-	-	-	-	-	-
Misc.	-	-	-	-	-	-
Technical assistance	607	800	2,000	1,000	1,304	1,239
TOTAL	85,000	85,000	60,000	70,000	56,304	51,239

Source: Rovira, "La ayuda", p.139.

Appendix B. Foreign trade

	Exports fob	Imports cif		Exports fob	Imports cif
1935	964.1	1903.3	1953	894.1	1658.9
			1954	874.4	1619.4
1948	628.1	1319	1955	876.2	1622.7
1949	655.1	1313.2	1956	870.8	1612.9
1950	847.4	1227.6	1957	878.9	1627.6
1951	963.3	1197.1	1958	904.8	1675.8
1952	860.2	1501.6	1959	1004.9	1861.2

In million 1913 pesetas

Source: Tena, "Comercio exterior".

	Imports				
	cotton	cotton	cotton	machinery	Fertilizers
	,000 tons	million ptas	million	\$ million	\$ Million
1935	101.4	92.9	30.3	109.9	25.3
1947	57.2	122.8	40.1	109.2	16.9
1948	65.2	159.8	52.2	146.1	18.8
1949	72.9	167.3	54.6	161.2	22.7
1950	56.7	130	42.5	125.4	38.5
1951	51.7	156.3	51.1	164.1	29.2
1952	82.2	250	81.7	268.6	44.3
1953	68.4	192.4	62.9	386.4	29.5
1954	58.8	151.7	49.5	430.4	36.1
1955	72.4	204.9	66.9	427.2	44.8
1956	45.8	132.8	43.4	557.7	53.7
1957	56.8	137.9	45.1	553.3	51.9
1958	74.1	188.3	61.5	450.3	63.5
1959	72.9	165.6	54.1	406.9	76.4

Source: United Nations, Yearbook of international trade statistics, various issues.

Appendix C. Private net capital stock
In millions 1990 pesetas

1940	11,728,088	1950	11,509,543
1941	11,599,086	1951	11,767,207
1942	11,502,035	1952	12,197,241
1943	11,367,829	1953	12,664,998
1944	11,159,849	1954	13,307,603
1945	11,022,120	1955	14,096,058
1946	11,051,912	1956	15,051,686
1947	11,116,100	1957	16,059,342
1948	11,237,126	1958	17,194,846
1949	11,330,232		

Private capital stock is defined as those durable, tangible, reproducible assets owned by the private sector of the economy and situated in Spanish territory, regardless of the owner's nationality.

Source: Cubel and Palafox, *The Capital Stock*.

Appendix D. Capital disbursed of operating companies

	(1)	(2)	(3)
	Capital	deflator	capital
	M ptas		M 1940 ptas
1940	14981	2.15	14981
1941	17067	2.55	14389.82
1942	19088	2.85	14399.72
1943	20799	2.99	14955.8
1944	23091	3.40	14601.66
1945	25455	3.62	15118.3
1946	32107	4.42	15617.66
1947		4.88	
1948	41312	5.18	17146.87
1949	46925	5.65	17856.42
1950	52150	6.90	16249.64
1951	62570	8.51	15807.93
1952	72806	8.54	18329.38
1953	82535	8.89	19960.66
1954	94306	9.39	21592.96
1955	108669	9.92	23552.25
1956	123457	10.66	24899.86
1957	154892	12.03	27682.28
1958	174848	13.41	28033.05
1959	188318	14.33	28254.27

(1) Capital disbursed by operating firms in million pesetas. Tafunell, "Asociación mercantil".

(2) Deflator BPGDPMP8, Prados, *Gross Domestic Product*.

(3) Real capital disbursed in millions of 1940 pesetas.

Appendix E. Inflation

	RPI 1976=100	inflation %
1941	6.91	29.89
1942	7.39	6.95
1943	7.35	-0.54
1944	7.65	4.08
1945	8.21	7.32
1946	10.77	31.18
1947	12.68	17.73
1948	13.53	6.70
1949	14.26	5.40
1950	15.81	10.87
1951	17.30	9.42
1952	16.96	-1.97
1953	17.23	1.59
1954	17.44	1.22
1955	18.14	4.01
1956	19.21	5.90
1957	21.25	10.62
1958	24.13	13.55
1959	25.89	7.29
1960	26.19	1.16
1961	26.64	1.72
1962	28.23	5.97
1963	30.66	8.61
1964	33.04	7.76
1965	37.39	13.17
1966	39.75	6.31
1967	42.32	6.47
1968	44.27	4.61
1969	45.37	2.48
1970	48.29	6.44

Source: own calculations with data from Maluquer, "Precios". In table 3 in the main text the standard deviation is also shown. This was calculated on these figures of inflation using the formula $\text{std dev} = [\sum (x_i - \bar{x})^2 / (n-1)]^{1/2}$.

Appendix F. Foreign exchange

Curb market

	dollar EIU	dollar Tangiers	sterling Tangiers
1949	45		
1950	51.5	52.52	
1951	53	51.27	126.7
1952	48.5	48.54	140.1
1953	43.4	43.3	124.35
1954		42.98	123.5
1955		43.16	123.45
1956		45.19	130.42
1957		53.95	155.80

Dollar EIU: peseta/dollar exchange rate in the curb market, as reported in The Economist Intelligence Unit, *Economic Review of Spain*, various issues.

Dollar Tangiers: peseta/dollar exchange rate in the free market of Tangiers, as quoted in Clavera et al., *Capitalismo español*, p.270.

Sterling Tangiers: peseta/sterling exchange rate in the free market of Tangiers, as quoted in Tamames, *Estructura Económica de España*, pp.542-3

Index of effective real exchange rate (according to the trade balance), post-1959 stabilisation=100

1948	232.5
1949	208.1
1950	172.7
1951	125.7
1952	121.7
1953	136.9
1954	131.8
1955	127.6
1956	138.5
1957	130.5
1958	133.9

Source: Serrano and Asensio, "El ingenierismo", p.268.

Appendix G. Stock exchange

Index of shares in Spanish stock exchange (Madrid, Barcelona, and Bilbao), corrected by wholesale prices.

	1951	1952	1953	1954	1955
Jan	27.33	27.12	25.81	26.30	29.10
Feb	28.45	27.83	25.89	26.22	29.79
Mar	29.02	28.49	25.48	26.48	30.54
Apr	27.51	28.49	24.75	27.55	31.23
May	26.74	27.46	24.76	27.37	30.35
Jun	23.27	28.17	24.43	27.27	30.07
Jul	26.98	27.43	23.96	27.40	30.68
Aug	28.09	27.44	24.29	28.12	32.27
Sep	27.82	27.60	24.28	28.21	33.35
Oct	27.39	27.02	24.77	28.37	33.57
Nov	27.03	26.88	25.50	28.37	33.93
Dec	26.74	26.13	25.64	28.00	33.76

Source: Instituto Nacional de Estadística, Boletín de Estadística. Publicación mensual, various issues.

Volume of shares traded

	(1)	(2)	(3)
1942	986.4	2.9	986.4
1943	920.4	3.0	877.3
1944	885.6	3.4	742.3
1945	780.0	3.6	614.1
1946	1405.2	4.4	906.1
1947	1288.8	4.9	752.7
1948	801.6	5.2	441.0
1949	656.4	5.7	331.1
1950	682.8	6.9	282.0
1951	1114.8	8.5	373.3
1952	1207.2	8.5	402.9
1953	1146.0	8.9	367.4
1954	1776.0	9.4	539.0
1955	2601.6	9.9	747.4
1956	3170.4	10.7	847.6
1957	2604.0	12.0	616.9
1958	2694.0	13.4	572.6

(1) Volume traded in shares, in million pesetas. Instituto Nacional de Estadística, *Boletín de Estadística. Publicación mensual*, various issues.

(2) BPGDPMP8 deflator, Prados, *Gross Domestic Product*.

(3) Volume traded in shares, in million 1942 pesetas.

Appendix H. Econometric modelling of investment

In this section we attempt to model an investment function for the Spanish economy in the years 1940-1970.

The model

The model is the standard neoclassical one.¹⁴⁵ It assumes that firms will invest until they reach a certain stock of capital, K^* , such that the value of the marginal product of capital ($VMPK = P_y MPK$) equals the cost of an extra unit of capital (user cost of capital, cuc). The marginal product of capital (MPK) is assumed to be obtained from a Cobb-Douglas production function,

$$(eq.1) \quad Y = N^{(1-K)} K^K$$

Where Y is output or income, N is labour force, K is capital, and K is the share of capital in the distribution of income (a property of the Cobb-Douglas function). We now obtain the MPK by differentiating in eq.1,

$$(eq.2) \quad MPK = \partial Y / \partial K = N^{(1-K)} K^{(K-1)} = K^{-1} Y$$

Since K^* is the level at which $P_y MPK = cuc$, we obtain by substituting in (eq.2),

$$(eq.3) \quad K^* = K^{-1} Y P_y / cuc$$

The neoclassical model of the flexible accelerator can be summarised in the following equations,

$$(eq.4) \quad \text{Net } I \equiv K_t - K_{t-1}$$

¹⁴⁵ See Jorgenson, "Econometric Studies of Investment Behaviour".

$$(eq.5) K_t = K_{t-1} + \Sigma (K^* - K_{t-1})$$

$$(eq.6) Net I_t = \Sigma (K^* - K_{t-1})$$

This represents that firms will invest in time period t only a proportion of the gap between the actual and desired stocks of capital. By substituting (eq.3) into (eq.6),

$$(eq.7) Net I_t = \Sigma [(K Y P_y / cuc) - K_{t-1}]$$

Which can be regressed as follows,

$$(eq.8) NETI_t = \theta_0 + \theta_1 X_{1t} + \theta_2 X_{2t} + u_t, \text{ where}$$

$$NETI_t = I_t - d \cdot K_{t-1}$$

$$X_{1t} = K Y_t P_{yt} / cuc = K Y_t P_{yt} / (r + d)$$

$$X_{2t} = K_{t-1},$$

And d stands for depreciation, r for real interest rate.

Data

This model requires us to collect data on the following variables:

K = share of capital in national income. Data was obtained from Maluquer, "Precios, salarios y beneficios". However, data for the pre-1954 period is not available, and the assumption that the average figure for 1954-57 prevailed for the pre-1954 period was made.

Y_t = national income or GDP. We use data on real GDP for mining, manufacturing and industry, BVPIND8, by Prados, *Gross Domestic Product*.

P_{yt} = price level. We use the deflator BPPIND8 for industry, by Prados, *Gross Domestic Product*.

r = real interest rate. Due to lack of alternative measures, the nominal interest rate used was the Bank of Spain discount rate, as quoted in Martín Aceña, “El sistema financiero”. To calculate the real interest rate we use an inflation rate based on deflator BPGDPM8 from Prados, *Gross Domestic Product*.

d = depreciation of physical capital stock. We use the estimate on depreciation provided in Hofman, “The capital stock”, series on capital stock in machinery and equipment.

K = series of physical capital stock. We use Hofman, “The capital stock”, series on capital stock in machinery and equipment.

$NetI$ = net investment. We use Hofman, “The capital stock”, series on capital stock in machinery and equipment.

The table below provides the figures used.

	Yt	Pyt	gamma	nominal r	inflation
1939	227.3	3.37	<u>0.498</u>	<u>4.00%</u>	16.45%
1940	252.7	3.92	<u>0.498</u>	<u>4.00%</u>	21.47%
1941	249.4	4.7	<u>0.498</u>	<u>4.00%</u>	18.60%
1942	271.2	5.04	<u>0.498</u>	4.00%	11.76%
1943	262.1	5.33	<u>0.498</u>	4.00%	4.91%
1944	288.7	5.94	<u>0.498</u>	4.00%	13.71%
1945	271.2	6.83	<u>0.498</u>	4.00%	6.47%
1946	307.5	7.57	<u>0.498</u>	4.00%	22.10%
1947	306	8.71	<u>0.498</u>	4.50%	10.41%
1948	301.2	9.69	<u>0.498</u>	4.50%	6.15%
1949	291.9	10.67	<u>0.498</u>	4.00%	9.07%
1950	320.4	13.38	<u>0.498</u>	4.00%	22.12%
1951	343.4	18.92	<u>0.498</u>	4.00%	23.33%
1952	401	19.05	<u>0.498</u>	4.00%	0.35%
1953	410.8	20.64	<u>0.498</u>	4.00%	4.10%
1954	436.6	21.87	0.499	3.75%	5.62%
1955	469	23.1	0.496	3.75%	5.64%
1956	513.1	24.28	0.495	4.25%	7.46%
1957	544.9	26.9	0.497	5.00%	12.85%
1958	590.1	28.98	0.501	5.00%	11.47%
1959	600.5	29.29	0.485	6.25%	6.86%
1960	625.1	29.11	0.47	5.75%	0.77%
1961	715.1	29.94	0.476	5.00%	1.73%
1962	792.6	30.75	0.478	5.00%	5.45%
1963	890.4	32.08	0.465	5.00%	9.17%
1964	1011.1	33.28	0.468	5.00%	5.38%
1965	1155.5	34.8	0.462	5.00%	9.93%
1966	1282.9	35.38	0.444	5.00%	7.81%
1967	1381	35.61	0.429	5.63%	5.92%
1968	1504.2	36.15	0.437	5.63%	4.47%
1969	1759.4	35.87	0.429	6.88%	3.94%
1970	1936.7	36.37	0.418	8.13%	6.01%
1971	2104.7	37.4	0.411	6.25%	7.84%
1972	2457.3	38.47	0.394	6.25%	8.79%
1973	2741.7	42.33	0.387	7.50%	12.12%
1974	3047.5	48.19	0.391	8.75%	15.56%
1975	3203.8	52.81	0.37	8.75%	14.82%
1976	3473.2	59.04	0.355	8.75%	15.73%

1939	d	d as % of K	r+d	NetI	K	X1
1940	125	0.06929047	0.2338	-125	1804	-6912.7628
1941	115	0.06804734	0.2827	-22	1690	-4625.8619
1942	110	0.06836544	0.2544	-30	1609	-7514.645
1943	104	0.06828628	0.1859	-15	1523	-72717.25
1944	99	0.06937631	0.1185	-4	1427	11546.2576
1945	92	0.07071483	0.2078	-10	1301	-32337.92
1946	82	0.07044674	0.1352	-2	1164	20166.7294
1947	73	0.06746765	0.2885	27	1082	-10211.084
1948	71	0.06717124	0.1712	31	1057	163887.58
1949	70	0.06578947	0.1273	49	1064	29473.8789
1950	72	0.066605	0.1573	56	1081	97726.5333
1951	72	0.06581353	0.2871	61	1094	-18495.946
1952	73	0.06218058	0.2955	72	1174	-24670.239
1953	83	0.06203288	0.0656	100	1338	38618.8082
1954	95	0.06213211	0.1031	103	1529	69053.17
1955	109	0.06326175	0.1195	81	1723	107026.118
1956	121	0.0646713	0.1211	80	1871	117511.856
1957	128	0.06412826	0.1387	93	1996	192521.333
1958	138	0.06415621	0.1927	120	2151	-507250.09
1959	149	0.06405847	0.1788	129	2326	-13085427
1960	161	0.06416899	0.1328	103	2509	146916.682
1961	173	0.06353287	0.0712	150	2723	75447.0918
1962	190	0.06339673	0.0807	215	2997	106065.895
1963	210	0.06311993	0.1176	249	3327	198598.878
1964	234	0.06332882	0.1550	263	3695	613308.035
1965	259	0.06321699	0.1170	295	4097	265104.6
1966	287	0.06267744	0.1620	384	4579	1391497.85
1967	323	0.06263331	0.1407	440	5157	583591.326
1968	364	0.06331536	0.1225	383	5749	349117.906
1969	402	0.06380952	0.1085	335	6300	315126.43
1970	438	0.0633864	0.1028	434	6910	291684.369
1971	483	0.06343578	0.1235	442	7614	347907.731
1972	532	0.0640578	0.1425	348	8305	672446.109
1973	576	0.06378031	0.1516	475	9031	969544.445
1974	629	0.06350328	0.1847	606	9905	2588487.23
1975	692	0.06331199	0.2189	667	10930	-12005570
1976	765	0.06394183	0.2121	531	11964	19227465.3

Estimation

We estimated the model through OLS.

Ordinary Least Squares Estimation

```

*****
Dependent variable is NETINV
36 observations used for estimation from 1940 to 1975
*****
Regressor      Coefficient      Standard Error      T-Ratio[Prob]
CONSTANT       -20.2191      19.8704      -1.0176[.316]
X1              .1349E-6      .3119E-6      .43255[.668]
KSTOCK(-1)     .064058      .0047269     13.5516[.000]
*****
R-Squared      .86746      R-Bar-Squared      .85943
S.E. of Regression  73.8400      F-stat.  F( 2, 33)  107.9890[.000]
Mean of Dependent Variable  201.0833      S.D. of Dependent Variable  196.9418
Residual Sum of Squares  179927.2      Equation Log-likelihood  -204.3840
Akaike Info. Criterion  -207.3840      Schwarz Bayesian Criterion  -209.7593
DW-statistic    .60993
*****

```

The value of the Durbin-Watson statistic indicates that there is a strong possibility of an auto-regressive process AR(1). This was confirmed by the plot of fitted and actual values, which showed residuals not being stochastic but following waves. We thus assume autocorrelation and proceed to estimate the model through the Cochrane-Orcutt method.

Cochrane-Orcutt Method AR(1) converged after 5 iterations

```

*****
Dependent variable is NETINV
36 observations used for estimation from 1940 to 1975
*****
Regressor      Coefficient      Standard Error      T-Ratio[Prob]
CONSTANT       37.3556      65.5079      .57025[.572]
X1              .1071E-6      .1651E-6      .64879[.521]
KSTOCK(-1)     .050589      .012474      4.0557[.000]
*****
R-Squared      .93263      R-Bar-Squared      .92610
S.E. of Regression  53.2836      F-stat.  F( 3, 31)  143.0373[.000]
Mean of Dependent Variable  201.0833      S.D. of Dependent Variable  196.9418
Residual Sum of Squares  88013.5      Equation Log-likelihood  -186.6861
Akaike Info. Criterion  -190.6861      Schwarz Bayesian Criterion  -193.8531
DW-statistic    1.6820
*****

```

Parameters of the Autoregressive Error Specification

```

*****
U=      .73464*U(-1)+E
      ( 4.9281)[.000]
T-ratio(s) based on asymptotic standard errors in brackets
*****

```

All we can safely conclude is that the data is not good enough to allow us to undertake this type of modelling, in which so many variables are combined into X1. The coefficient on X1 fails to be significant and this would imply that net investment

is only explained by the previous level of capital stock. Lack of data on many variables, and the availability of only annual data make the exercise of little use. For these reasons no attempt at formalising a structural break test was made. However, if only to highlight the differences between in investment behaviour before and after the treaties with the Americans we have split the sample in 1940-1953 and 1954-1975 (see below).

The model seems particularly ill-suited to explain the pre-Pact of Madrid investment. Not even the lagged capital stock turns out to be significant. Although these results cannot be interpreted to support any thesis, they might suggest that investors' behaviour responded differently in the two periods.

```

Cochrane-Orcutt Method AR(1) converged after 24 iterations
*****
Dependent variable is NETINV
14 observations used for estimation from 1940 to 1953
*****
Regressor      Coefficient      Standard Error      T-Ratio[Prob]
CONSTANT      -93.6886           988.3393           -.094794[.926]
X1             -.2082E-6          .1125E-4           -.018508[.986]
KSTOCK(-1)    -.011406           .14601            -.078117[.939]
*****
R-Squared      .93716            R-Bar-Squared      .91621
S.E. of Regression  12.7353        F-stat.  F( 3, 9)  44.7407[.000]
Mean of Dependent Variable  29.7143    S.D. of Dependent Variable  44.8149
Residual Sum of Squares  1459.7      Equation Log-likelihood  -49.1329
Akaike Info. Criterion  -53.1329    Schwarz Bayesian Criterion  -54.4110
DW-statistic    2.4511
*****
Parameters of the Autoregressive Error Specification
*****
U=      1.0694*U(-1)+E
(      *NONE*)
***WARNING*** The above autoregressive process is unstable!
T-ratio(s) are not calculated.
*****

```

```

Cochrane-Orcutt Method AR(1) converged after 4 iterations
*****
Dependent variable is NETINV
22 observations used for estimation from 1954 to 1975
*****
Regressor      Coefficient      Standard Error      T-Ratio[Prob]
CONSTANT      79.1447           66.6824           1.1869[.250]
X1             .1330E-6          .2332E-6           .57036[.575]
KSTOCK(-1)    .048486           .011234           4.3161[.000]
*****
R-Squared      .87539            R-Bar-Squared      .85340
S.E. of Regression  66.5164        F-stat.  F( 3, 17)  39.8097[.000]
Mean of Dependent Variable  310.1364    S.D. of Dependent Variable  177.0962
Residual Sum of Squares  75215.3      Equation Log-likelihood  -115.7254
Akaike Info. Criterion  -119.7254    Schwarz Bayesian Criterion  -121.9075
DW-statistic    1.6539
*****
Parameters of the Autoregressive Error Specification
*****
U=      .50313*U(-1)+E
(      2.0370)[.057]
T-ratio(s) based on asymptotic standard errors in brackets
*****

```

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